


COUNTWAY LIBRARY



HC 3115 D



BOSTON MEDICAL LIBRARY  
IN THE  
 FRANCIS A. COUNTWAY  
LIBRARY OF MEDICINE





Digitized by the Internet Archive  
in 2015

<https://archive.org/details/indianamedicinej7916indi>















DISPLAY  
SHELVES

MA 02115

CONTRACTED TO FILE  
N.E. JOURNAL OF MED  
10 SHATTUCK STREET  
BOSTON

JANUARY 1986

VOL.79

NO.1

# INDIANA MEDICINE

The Journal of the Indiana State Medical Association

THE FRANCIS A. COUNTRYWAY  
LIBRARY OF MEDICINE  
BOSTON, MA

JAN 2 - 1986



In This Issue : COVERAGE OF THE 1985 ISMA CONVENTION

# **FOR MEDICAL PROFESSIONAL LIABILITY COVERAGE, THE ISMA STRONGLY RECOMMENDS PHYSICIANS INSURANCE COMPANY OF INDIANA.**

Several companies are anxious to provide most Indiana physicians with medical professional liability insurance coverage. *Only one* has received the formal endorsement, support, and sponsorship of the Indiana State Medical Association. That company is PICI, Physicians Insurance Company of Indiana.

Why PICI?

Because PICI is committed to providing Indiana physicians with the best possible coverage at the lowest possible rates throughout their medical careers. Indiana physicians dominate the company's board of directors and serve on budget, claims and underwriting committees. PICI is a publicly held stock company, and provides annual as well as periodic interim financial reports.

With PICI, you know what's happening to your premium dollars. You will receive information about claims experience and trends. You are guaranteed input on company activities, through your physician members of the company's board and its committees. You are part of the company.

Through PICI, you also receive competitively priced auto, homeowners, office protection and personal umbrella coverages, designed and offered with the same long term commitment.

Compare all that PICI offers with what you will obtain from other sources of medical professional liability and other essential insurance coverages. We think you'll agree that the ISMA has endorsed the best.

**The Accountable Company . . .**



**PHYSICIANS INSURANCE  
COMPANY OF INDIANA**

3901 West 86th Street  
Suite 350  
P.O. Box 689059  
Indianapolis, Indiana 46268  
(317) 872-3046 or toll free  
in Indiana (800) 732-1313

# INDIANA MEDICINE

Vol. 79, No. 1  
JANUARY 1986

Devoted to the interests of the medical profession and public health in Indiana since 1908.

## SCIENTIFIC ARTICLES

CME: Carcinoma of the Endometrium	13
PD CRITICAL CARE: Infant and Child Resuscitation	18
Primary Angiosarcoma of the Heart	22
Esophageal Adenocarcinoma	24
Granular Cell Myoblastoma of the Esophagus	28
Hypertension: Effective Dietary Sodium Restriction	30
Cardiac Tamponade from Chronic Pericardial Effusion in Hypothyroidism	32
Testicular Self-examination	36

## FEATURES

Nutrition and Aging: Research Findings	38
The Living Will: A Matter of Life and Death	40
Physician Dispensing: A Tradition Is Under Attack by Pharmacists	43
From the Executive Director: Should ISMA Form a Union?	45
Convention Wrap-up	48
1985 Resolutions	58

## DEPARTMENTS, MISCELLANEOUS

Medical Museum Notes	3
What's New?	4
Future File	6
Cancer Corner	8
Public Health Notes	11
Drug Names	31
Fifty Year Club	52
Election Results	53
ISMA Physician of the Year	105
Journalism Awards	107
Auxiliary Report	108
News Notes	121
ISMA's Leadership	127

THE FRANCIS A. COUNTESS  
LIBRARY OF MEDICINE  
BOSTON, MA

JAN 2 1986

USPS 284-440  
ISSN 0746-8288

### OFFICE OF PUBLICATION:

3935 N. Meridian St.,  
Indianapolis, Ind. 46208  
Tel: (317) 925-7545

INDIANA MEDICINE (ISSN 0746-8288) is published monthly by the Indiana State Medical Association. Second-class postage paid at Indianapolis, Ind.

POSTMASTER: Send address changes to INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis, Ind. 46208.

Yearly subscription rates: \$20 domestic, \$22 Canada, \$23 foreign. Library rates: \$18 domestic, \$20 Canada, \$21 foreign. Senior ISMA members and full-time

medical students—\$10. Single copies not available. Subscriptions are renewable annually.

Views expressed do not necessarily reflect the opinions of the editors. No copyright is claimed, unless specifically indicated. Copyright rests solely with authors, who are responsible for statements made in their articles. Scientific and editorial contributions are accepted for exclusive publication, subject to editorial requirements. Publication deadline: 1st day of month preceding month of issue. Instructions for authors available upon request.

All issues since 1967 are available on microfilm from University Microfilms International, 300 N. Zeeb Rd., Ann Arbor, Mich. 48106. Indexed in Index Medicus and Hospital Literature Index.

Advertising rates and data available upon request.

### EDITOR

Frank B. Ramsey, M.D.

### BUSINESS MANAGER

Donald F. Foy

### MANAGING EDITOR

Martin T. Badger

### CIRCULATION MANAGER

Sheryl A. Mahoney

### EDITORIAL BOARD

Alvin J. Haley, M.D.

Alan T. Marty, M.D.

(Terms expire Dec. 31, 1986)

Thomas J. Conway, M.D.

I.E. Michael, M.D.

(Terms expire Dec. 31, 1987)

Elton Heaton, M.D.

Nancy C. A. Roeske, M.D.

(Terms expire Dec. 31, 1988)

Kevin A. Ault

Richard E. Blackburn

Robert S. Flint II

(Terms expire Dec. 31, 1986)

### CONSULTING EDITORS

Steven C. Beering, M.D., Charles A.

Bonsett, M.D., Rodney A. Mannion, M.D.,

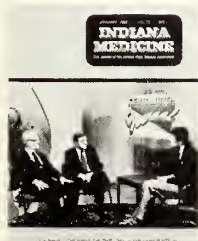
Lall G. Montgomery, M.D., Paul S.

Rhoads, M.D., W.D. Snively, M.D., I.W.

Wilkins, M.D.

### ABOUT THE COVER

During the 1985 ISMA convention, Dr. Paul Siebenmorgen (left) and Dr. Lawrence Allen took time out to be interviewed by Bob Kartheiser of WSJV-TV, Elkhart. The interview was featured on "Newswatch Journal," the station's half-hour public affairs program. Our coverage of the convention, conducted at the South Bend Century Center Nov. 14-17, begins on page 48. PHOTO BY ADELE LASH





# IF YOU'RE CONSIDERING A COMPUTER FOR YOUR MEDICAL PRACTICE, THEN TAKE AIM

**AIM** (Advanced Information Management) is the first complete practice-management computer system designed for your entire practice, including all your financial, clinical and administrative needs.

## AIM is Unique

- Developed *by* physicians *for* physicians
- Endorsed by Blue Cross/Blue Shield of Indiana
- Designed for *your* practice specialty
- Fully computerized medical records
- Created *exclusively* for medical practices

**AIM** is the most innovative, cost-effective medical practice management system available today. You can't afford not to consider it when you're considering a computer.



Yes, I'm interested in finding out how Advanced Information Management will benefit my practice. Please:

- ☐ Send more information      ☐ Conduct a FREE Physician Practice Profile      ☐ Arrange a demonstration of AIM

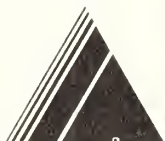
NAME \_\_\_\_\_

PRACTICE \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_ PHONE (     ) \_\_\_\_\_

SPECIALTY \_\_\_\_\_ NUMBER OF PHYSICIANS \_\_\_\_\_



ADVANCED INFORMATION SYSTEMS

*Understanding your medical practice*

8777 Purdue Road • Suite 117 • Indianapolis, Indiana 46268 • (317) 875-8577



# MEDICAL MUSEUM NOTES

CHARLES A. BONSETT, M.D., Indianapolis



**T**HE THEME FOR THIS page of Notes is love. This could probably wait for next month and Valentine's Day, but it also seems an appropriate way to start the new year. The word love is used here as expressed in poetry and, as it relates in some way to the Hoosier physician.

We will commence with the year 1850, at which time a first year medical student of the Indiana Central Medical College penned an eight stanza poem to his lady love, Miss "P", which was published on page 1 of the January 15 issue of the *Indianapolis Locomotive*. The eight stanzas are here abbreviated to four. This is a poem of youth and conveys the idealism characteristic of the typical medical student.

## TO MISS "P"

Talk not to me of verdant Spring,  
Nor of the song of birds that sing  
Among the leary bowers:  
Nor of the rose's blushing hue  
Be sprinkled o'er with morning dew,  
Or wet with gentle showers.

No, speak to me not of things like  
these,  
And think thereby a heart to please,  
That knows a bliss like mine,  
To look upon that lovely face,  
There in bewitching smiles to trace  
A sweetness only thine.

I'd rather in a cottage dwell,  
With thee fair one, I love so well,  
Thus with thee to abide,  
Than in a courtly palace live,  
With such cold joys as wealth can give  
And own the world beside.

All this, aye, more I'd undergo,  
For thee, sweet girl, my love to show  
And know thee only mine;  
But 'twere a bliss too pure - too rare  
For one like me for one to dare  
To ask or even wish to share  
To own a heart like thine.

The identity of the medical student was never revealed. All he got for his efforts insofar as can be judged from subsequent issues of the *Locomotive* was a lot of criticism and no encourage-



Robert Indiana's Statue of Love.

ment. The identity of Miss "P" was not disclosed. One can only wonder if her first name was Sally on the basis of the following quatrain that was published at about the same time:

"Give me a kiss, my charming Sall"  
A lover said to his blue-eyed gal.  
"I won't, said she, "You lazy elf,  
Screw up your lips and help  
yourself."

The next poem, which describes the amorous activities of a young Hoosier doctor, was penned anonymously.

DR. BAKER, DEAREST SIR,  
a word or two with you.

A friend of yours the other day In-  
formed me that he knew,

About your love for many girls And  
their deep love for you.

Informing me I listened, till His  
narrative was done

And then in slumber's arms so still,  
I dreamed the following song:

'Tis said, dear sir, you love the girls,  
And know not which to choose,  
That Julia L, with raven curls,  
You will not yet refuse.

That Madam Blanche you fondly  
love,

And think her handsome too;  
That M., as pretty as a dove  
You feel inclined to woo.

That pretty Clara's eyes of blue  
Like summer's smiling skies,  
Have pierced your yielding heart  
quite through  
And caused your love to rise.

Eliza H. twines round your heart  
Like graperines round a tree,  
From her you cannot depart,  
Oh! No, It cannot be.

I thought I saw you musing long,  
And trying hard to choose  
But I awoke and ceased my song  
Before I got the news.

Perchance, Dear Sir, I'll dream  
again,  
And see you at the altar;  
But surely it would give me pain  
There to see you falter.

—DREAMER—

We come next to venereal love and recall that before the general use of antibiotics, syphilis was the major cause of admission to insane asylums. Dr. Ralph U. Leser (I.U., 1930), now retired, provides the following limerick which he credits to Dr. Max Bahr.

There was a young girl from Bombay,  
Who thought that syphilis just went  
away.

And now she has tabs  
And saber-skinned babies  
And thinks she is Queen of the May.

The final poem is the most surprising. It was found recently, on the inside cover of a physician's account book more than a century old. The account book and other items were recently given to the Museum.

## THREE WORDS

There are three words, the sweetest  
words

In all of human speech—  
More sweet than are all songs of birds,  
On pages poets preach.

This life may be a vale of tears,

A sad and dreary thing—  
Three words, and trouble disappears  
And birds begin to sing.

Three words and all the roses bloom  
The sun begins to shine.

Three words will dissipate the gloom  
and water turn to wine.

Three words will cheer the saddest  
days

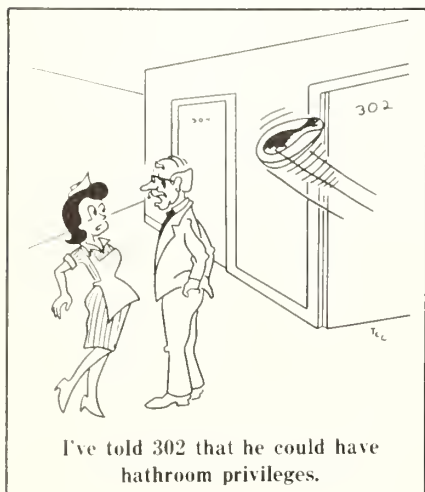
"I love you?" Wrong, by heck!—  
It is another, sweeter phrase,  
"Enclosed find check."

# WHAT'S NEW?

Chronomite Laboratories announces a gadget that attaches to the hot water faucet and automatically mixes the overly hot water with cold to produce a comfortable temperature for ordinary uses. Its use will avoid scald accidents and make it possible to maintain hot water at 140°F for proper functioning of the dish washer. Thousands of scald injuries occur each year—2,615 of which require hospital emergency room treatment. Of this number, 12.4% of the cases require hospitalization and some result in death.

Edy's Grand Ice Cream is introducing a diabetic version of its premium ice cream. It is a combination of milk, cream and sorbitol as sweetener and is available in Vanilla, Chocolate, Coffee and Marble Fudge flavors. Packaged in pint containers and is to be found in grocery and convenience stores in the Midwest. Also found in the Western states as Dreyer's Diabetic Ice Cream.

Kingswood Laboratories has developed an aid to mouth care and oral hygiene for those unable to care for themselves. Moi-Stir Oral Swabsticks, packaged in disposable foil packets, are premoistened with Moi-Stir, a saliva supplement and wetting agent. They are designed to moisten, buffer, and mineralize mouth surfaces like natural saliva. The product is accepted by the Council on Dental Therapeutics of the American Dental Association.



News of what is new in the medical supply industry is composed of abstracts from news releases by book publishers and manufacturers of pharmaceuticals, clinical laboratory supplies, instruments and surgical appliances. Each item is published as news and does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

Scientific Growth, Inc. reports a new hand washing system call VIVO. It is an automated handwashing system that, in only eight seconds, effectively removes bacteria from the skin without disinfectants or scrubbing. It uses a non-absorbant, non-irritating system of pressurized water, air and surfactant at sufficient pressure to create a trampoline effect against the skin. A special 90-second pre-op Surgical wash is in planning. Hand washing should be much more frequently performed in hospitals but the time involved in standard washing and the irritation many people have limits inter-patient cleanliness. VIVO systems were devised to encourage more hand washing.

Abbott Laboratories announces availability of a new diagnostic test for detecting respiratory syncytial virus (RSV), believed to be the leading cause of pediatric respiratory ailments; it strikes up to half of infants during the first year of life. The new test provides results in five hours, as contrasted to four to seven days for culture methods. Early detection is necessary to control rapid spread in hospital wards and in community epidemics.

The 3M Company announces FDA approval for marketing the first of a new class of drugs for the treatment of irregular heart rhythms. The drug, flecainide acetate, marketed under the trade name Tambacor®, is approved for the treatment of documented, life-threatening ventricular arrhythmias and for patients with symptomatic ventricular arrhythmias who the physician believes will benefit from therapy.

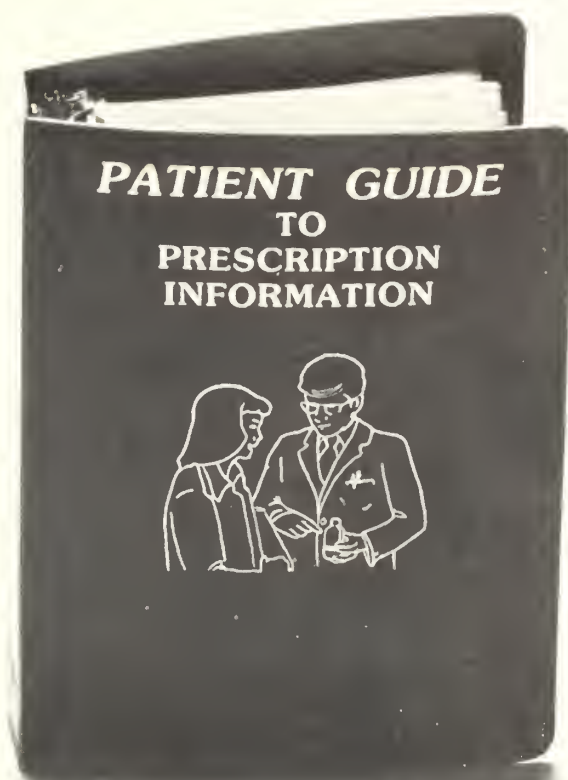
American Annsion is introducing its AnnsionResponse™ practice management software package that improves productivity by computerizing much of the billing work in group medical practices. It is designed for practices of five or more physicians. AnnsionResponse runs on the IBM System/36 family of minicomputers and is an enhancement of Annsion's successful microcomputer-based "Doctor's Office Manager" practice management software for smaller practices.

Vicks Oral Health Group is introducing Denquel Sensitive Teeth Toothpaste. It contains potassium nitrate, which is effective in clinical studies in reducing the pain and discomfort of dental hypersensitivity. It is fast acting as compared to other preparations. It is recognized as effective by the American Dental Association's Council on Dental Therapeutics and carries the ADA seal.

BioflyTech International has a new serum alpha-fetoprotein (AFP) test kit, which offers 50% greater accuracy than radioimmunoassay tests for AFP, as well as safety, time and labor saving advantages. The kit produces accurate readings of AFP blood serum levels, as low as one nanogram in approximately three hours.

Hewlett-Packard announces availability of zinc-air batteries for longer life and lower price. The 8.4V batteries (HP 40455A) are compatible with the installed base of HP telemetry transmitters. Transmitters need no modification to use the batteries. Bench testing shows zinc-air batteries last 40% longer than mercury batteries.

Eastman Kodak announces an x-ray film processor designed for use in research centers, private laboratories, and other locations with low volume. The new processor delivers a high-quality radiograph, dry and ready to read in less than three minutes for a 35 x 43 cm film. It can handle 94 sheets of 14 x 17-inch film in an hour.



## This book about drugs is different... it's written in English

Patients often have questions about their prescription drugs, even after their doctor has taken the time to discuss their medication with them.

That's why every Peoples Drug Store has a copy of the "Patient Guide to Prescription Drugs". It's an authoritative directory that provides the drug information patients need most. It informs them about side effects, dosages, and almost everything they need to know in order to take their medication properly.

And, unlike many books on drugs, it does it all without complicated jargon, using

clear, straightforward writing that's easy to understand. You see, when it comes to helping people get the most from their prescriptions Peoples wants to make sure we're all talking the same language.

*Every Peoples has an unlisted phone that's reserved only for doctors and answered only by pharmacists. Please call your local store to obtain the number.*





# FUTURE FILE

## Family Therapy

The CME Division of the Menninger Foundation will conduct a course on "Advanced Family Therapy: An Integrated Model" on March 6 and 7 in Topeka, Kan.

For information on the course, accredited for 11 Category 1 hours, write the Foundation at Box 829, Topeka, Kan. 66601.

## Evansville Meeting

The First International Meeting for Gamma Med Remote Afterloader Users will be held May 15 and 16 at St. Mary's Medical Center in Evansville.

For details and pre-registration, contact Al Korba, M.D., St. Mary's Medical Center, 3700 Washington Ave., Evansville, Ind. 47750—(812) 479-4182.

## Breast Cancer

The 22nd National Conference on Breast Cancer will meet May 12 to 16 at the Marriott Copley Place, Boston. The meeting is sponsored by the American College of Radiology.

Details about credits, program and registration may be requested from the College at 1891 Preston White Drive, Reston, Va. 22091.

The *Journal of the American Medical Association* publishes a list of CME courses for the United States twice yearly. The January listing features courses offered from March through August; the July listing features courses offered from September through February.

## Evaluating Residents

The American Board of Medical Specialties will conduct a conference on "How to Evaluate Residents" on Friday, March 21, from 8 a.m. to 4 p.m. at the Marriott Hotel O'Hare, Chicago.

Registration fee is \$150 for ABMS members, \$200 for non-members.

To register, write the Board at One American Plaza, Suite 805, Evanston, Ill. 60201.

## Counseling Strategies

"Counseling Strategies for Physicians" is the subject of a CME seminar sponsored by the University of Texas at Tyler March 24 to 29 in Oahu, Hawaii. AMA/PRA Category 1 credit is 17 hours. Faculty will discuss social change, family violence, addiction and human sexuality as considerations in dealing with patients. Registration fee is \$325.

For further information, phone 1-800-332-8747.

## Methodist Hospital CME

Jan. 17-18: Advanced Cardiac Life Support Course, Indianapolis—15 credit hours.

Feb. 14-17: 2nd Perinatology Symposium, Sugar Loaf, Mich.—10 credit hours.

March 1-2: 2nd Symposium on Extracorporeal Shock Wave Lithotripsy, Indianapolis.

March 14-15: Advanced Trauma Life Support Course, Indianapolis—16 credit hours.

For more information, contact Dixie Mattingly, CME coordinator, Graduate Medical Center, Methodist Hospital of Indiana—(317) 929-3733.

## Surgical Health Policy

A two-day symposium on "Surgical Health Policy" will be conducted by the Dept. of Surgery of Long Island Jewish Medical Center at the Waldorf Astoria May 15 and 16.

The tuition is \$300. The meeting will be directed to an audience of surgeons, public health professionals, hospital administrators, and industry representatives concerned with surgical health policy and cost.

Contact Ann J. Boehme, Long Island Jewish Medical Center, New Hyde Park, N.Y. 11042—(718) 470-8650.

## COPD Symposium

"Chronic Obstructive Pulmonary Disease" is the subject of a symposium to be conducted by the University of Wisconsin March 6 and 7 at the Sheraton Inn in Madison. Category 1 credit is 14 hours.

Contact Sarah Z. Aslakson, 465-B WARF Bldg., 610 Walnut St., Madison, Wis. 53705—(608) 263-2856.

## Pediatrics Lecture

The Kareem B. Minhas Memorial Lectureship will be held Friday, April 4, at 8 a.m. in the Second Floor Auditorium, Kosair-Children's Hospital, Louisville.

Jacqueline Noonan, M.D., chairman and professor of pediatrics at the University of Kentucky, will speak. The meeting, sponsored by the University of Louisville, qualifies for one hour of Category 1 credit.

## Hand Surgery Course

"Peripheral Nerve Problems" is to be the subject of a course sponsored by the American Society for Surgery of the Hand April 2 to 4 at the Snowbird Ski and Summer Resort, Snowbird, Utah. The course is accredited for 14 Category 1 hours.

Contact the Society at 3025 S. Parker Road, Suite 65, Aurora, Colo. 80014—(303) 755-4588.





## Business Solutions

A business solutions conference for health care professionals meets at the Las Vegas Convention Center Jan. 30 to Feb. 2. The conference will offer "something for everyone," from the first-time buyer to the experienced purchaser of information systems.

A complete program of 42 seminars, offered six concurrently, will be held Thursday afternoon, and Friday, Saturday and Sunday mornings.

For fees and program details and registration, contact Mark Jennings, Fleishman Communications, 2401 Plum Grove Road, Palatine, Ill. 60067 — (312) 397-7818.

## Kentucky CME Courses

The following AMA Category 1 courses are offered by the College of Medicine, University of Kentucky:

Feb. 23-28—17th Family Medicine Review, Session I.

April 11-12—Aggressive Management of Diabetes and Obesity.

April 18-19—Contemporary Pediatrics for the Practicing Physician.

May 18-23—17th Family Medicine Review, Session II.

June 13-14—Update on Ob-Gyn.

All courses will be conducted at the Hyatt Regency Hotel, Lexington. Contact Joy Greene, 132 College of Medicine Office Bldg., University of Kentucky, Lexington, Ky. 40536 — (606) 233-5161.

## WorldMed '86

WorldMed '86, projected as the largest international health care congress in North America, will be held at the St. Paul Civic Center, St. Paul, Minn., May 7 to 9.

Dr. W. Eugene Mayberry, chairman of the Mayo Clinic Board of Governors, and Dr. John S. Najarian, chairman of the University of Minnesota Medical School's Dept. of Surgery, are honorary chairmen of the congress.

For more information, contact WorldMed '86, Minnesota Trade Office, 90 W. Plato Blvd., St. Paul, Minn. 55107.

## Drug Abuse Workshop

A workshop on "The Physician's Role in Drug Abuse: Kids and Adults" will be conducted Jan. 29 at the Hilton at the Circle, Indianapolis.

The workshop is sponsored by the Medical Education Department of Winona Memorial Hospital and the Indiana Federation of Communities for Drug-Free Youths.

For more information, contact Dr. William R. Storer, Medical Education, Winona Memorial Hospital — (317) 927-2240.

## Hand Surgery Meeting

The American Society for Surgery of the Hand will hold its 41st annual meeting Feb. 17 to 19 at the Fairmont Hotel, New Orleans. The program includes 70 original papers, 30 one-hour instructional courses, 16 panel sessions, and commercial and scientific exhibits.

The meeting carries 18 credit hours in Category 1. For registration fees and details, correspond with the Society at 3025 S. Parker Road, Suite 65, Aurora, Colo. 80014.

## Pediatrics/Family Practice

"Review and Update: General Pediatrics and Family Practice" is the subject of a CME course to be conducted by the University of Nebraska Medical Center at the Sheraton Royal Waikoloa, Kailua, Kona, Hawaii from Feb. 26 to March 5.

The correspondent is Marge Adey, Nebraska Center for CME, 42nd & Dewey Ave., Omaha, Neb. 68105 — (402) 559-4152.

## Trauma Management

"Trauma Management 1986" is the subject of a CME conference that will be conducted Feb. 3 to 5 at the U.S. Grant Hotel in San Diego. Up to 18 hours of AMA/CMA credit.

Contact CME, M-017, UC San Diego School of Medicine, La Jolla, Calif. 92093 — (619) 452-3940.

## Cleft Lip & Palate

"Surgical Techniques in Cleft Lip and Palate" will be the subject of an annual workshop to be conducted at the Snowmass Club, Snowmass, Colo., March 10 to 14. It is co-sponsored by the Foundation for Craniofacial Deformities and the Plastic Surgery Educational Foundation, with the cooperation of the CME Center of Baylor University.

Registration fee for physicians is \$600, for residents \$300. The workshop is accredited for 22 hours of Category 1 credit.

Write to the A. Webb Roberts Center, Baylor University Medical Center, 3500 Gaston Ave., Dallas, Tex. 75246.

## Maxillofacial Surgery

The Third International Symposium on Oral and Maxillofacial Surgery, under the auspices of the Dept. of Hospital Dentistry, Truman Medical Center, will meet April 3 to 6. The topic will be "International Update on Biomedical Materials Used in Maxillofacial Surgery."

Attendance will be limited. For a complete brochure and pre-registration, contact the Office of CME, University of Missouri-Kansas City, 2220 Holmes, Kansas City, Mo. 64108 — (816) 276-1339.



# CANCER CORNER

WILLIAM M. DUGAN, JR., M.D.

Clinical Oncology Center, Methodist Hospital of Indiana

## Leukemia Society of America Announces New Grants

The Leukemia Society of America, a national voluntary health agency dedicated to the conquest of leukemia and related diseases through medical research, has announced the addition of two grants to its research program. The grants, the President's Research Development Award and the Short-Term Scientific Award, have been developed as part of the Society's effort to "expand its research program in order to accelerate efforts on all fronts to find the causes and eventual cures of leukemia and related diseases."

The President's Research Development Award is designed to provide funds to senior investigators to accelerate new research which may potentially further the understanding of leukemia. Projects may include unique research opportunities which need immediate funding for technical support, supplies, and/or equipment needed to begin an important new avenue of investigation. The grant will be given for a maximum 12-month term, will be awarded a maximum of \$50,000 and is not renewable. The award may not be used as a salary supplement, as an emergency measure to complete a current project or to cover travel expenses.

Applicants must hold a Ph.D., M.D. (or the equivalent), be senior investigators on tenure track (or the equivalent) in an established program affiliated with an academic or non-profit institution, and have demonstrated expertise in their field. Proposed projects must be directly related to the field of leukemia and related diseases.

The purpose of the Short-Term Scientific Award is to provide funds for travel to another laboratory or clinic to learn a specific technique or to share information which has been developed by the principal investigator of the laboratory/clinic to be visited. The nature of the information exchanged must enhance the grantee's ability to

conduct the project for which the Society is already providing funds. The grant will award a maximum of \$5,000 to cover transportation, lodging and out-of-pocket expenses. The award may not be used as a salary supplement or to attend scientific symposia or workshops. The award must be used within 12 months of receipt and is not renewable.

Applicants may be current Leukemia Society Fellows, Special Fellows or Scholars or established investigators who wish to visit a laboratory/clinic of a Leukemia Society grantee's sponsor who has demonstrated expertise in a particular field of research. Information to be exchanged must be directly related to leukemia research.

Both grants will be awarded quarterly with the first activated January 1, 1986. Applications must be received three months prior to the Society's quarterly activation dates for both awards.

Applications are available by writing Research Grant Coordinator, Leukemia Society of America, 733 Third Avenue, New York, New York 10017.

## Key National and Regional Meetings on Cancer Program Issues

In Washington, D.C. every year, the Association holds its National Meeting. In other communities, from Los Angeles to Portland to Indianapolis... ACCC Regional meetings also cover the key issues.

What kinds of issues? Topics like... Oncology Economics, Marketing Your Cancer Program, Fund Raising, Clinical Research in the Community, Health Care Financing, Hospice and the Oncology Program, Home Health, The Potential for an Oncology HMO, Cancer DRGs, Psychosocial Issues and the Cancer Patient... these and many others provide ACCC members with thought-provoking sessions on practical issues and concepts by leading national authorities.

ACCC meetings also provide a

forum for paper presentations and publications. Each year the Association, in conjunction with the Association of American Cancer Institutes, holds a series of paper presentation sessions which have now become a key forum for information on cancer control and research issues. These sessions on *Advances in Cancer Control* provide members with the opportunity for peer review and for publication in a series of books.

Each year in Washington, members are briefed on key issues and journey to Capitol Hill to meet with their Congressmen and key aides to discuss the problems and issues that we face. These unique meetings give you an opportunity to find out the latest information and to participate in policy decisions that can affect your program and patients.

## DRG Research Sponsors

ACCC members may also elect to be sponsors of the Association's DRG Research project. Sponsors receive complete, detailed reports on the project's findings, including complete comparative reports on cancer DRG "winners" and "losers."

To receive timely copies of ACCC DRG research reports, you must be a sponsor. Sponsors pledge \$500 per year for three years, in addition to other membership.

Further information about ACCC or applications for membership may be obtained from:

Lee Mortenson, Executive Director  
Association of Community Cancer  
Centers

11600 Nebel Street; Suite #201  
Rockville, Maryland 20852

The "I Can Cope" patient education series sponsored by the American Cancer Society are in the planning stages for 1986. This program is for cancer patients and family members and is provided at no cost. The 6 session series provides medical and practical information to assist both patient and family members. For more information, call 923-2225.



# Motrin<sup>®</sup> 800 TABLETS mg

ibuprofen

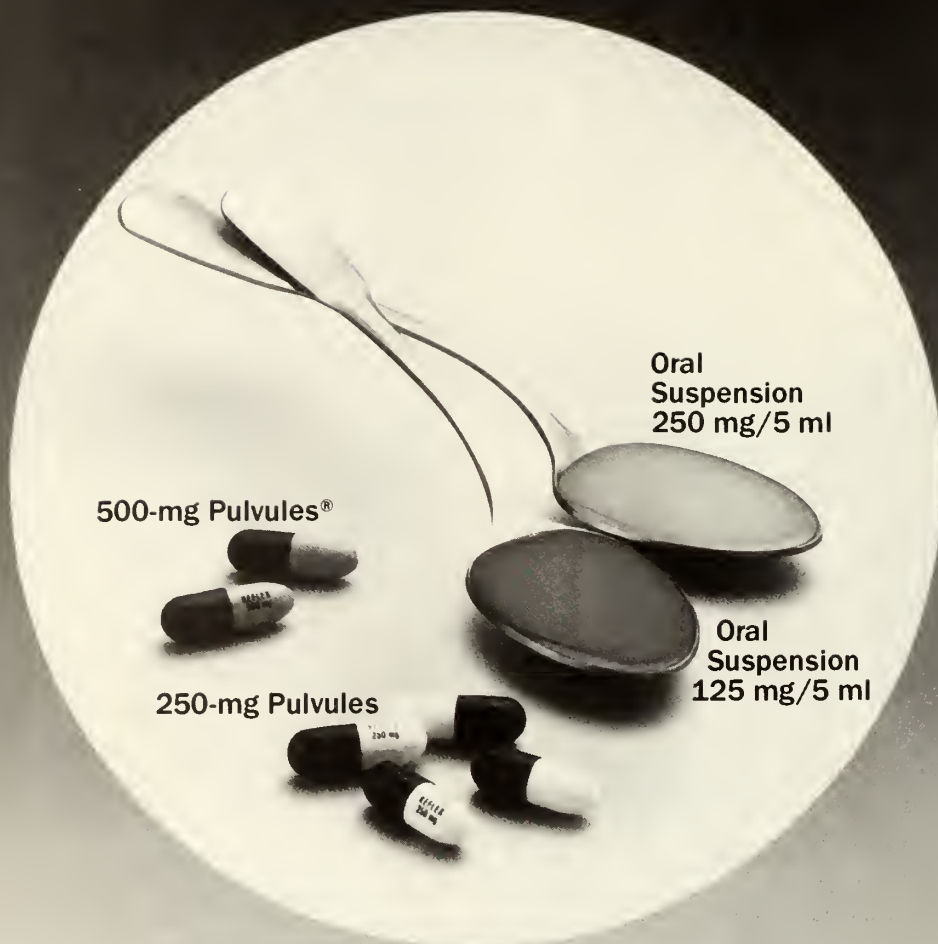


Extra strength  
Convenience  
Economy



A Century  
of Caring  
1886-1986

# Easy To Take



**Keflex<sup>®</sup>**  
**cephalexin**

Additional information  
available to the profession  
on request.



420113

Dista Products Company  
Division of Eli Lilly and Company  
Indianapolis, Indiana 46285  
Mfd. by Eli Lilly Industries, Inc.  
Carolina, Puerto Rico 00630



WOODROW A. MYERS, JR., M.D.  
State Health Commissioner

New information from  
Office of the Commissioner  
Indiana State Board of Health  
1330 W. Michigan St.  
Indianapolis, Ind. 46206  
317-633-8400

## PUBLIC HEALTH NOTES

Consider for a moment the environment in which dental health professionals work. During the course of any given day, 10 to 20 individual patients are treated. Treatment often involves the use of sharp instruments which penetrate oral tissues resulting in exposure to blood. The use of air and water syringes and high speed drills create an aerosol of splattering blood and saliva products toward the eyes, nose and mouth of the dentist, assistant, and patient.

Other operatory surfaces are contaminated by these aerosols, and also by contact with the hands of dental personnel. One of the susceptible surfaces is the patient record which is generally on the countertop in the operatory. This record is then taken to the dental receptionist upon completion of treatment. After the patient is dismissed, the soiled instruments are scrubbed and sterilized. Care must be taken to avoid puncturing the skin and inhaling aerosols created during the cleaning of the contaminated instruments and the disinfection of environmental surfaces. This clinical scenario represents the obvious need for stringent infection control procedures during dental treatment.

Unfortunately, some dentists and dental patients have been caught unaware and unprotected from exposure to life-threatening infections. Cases have been reported of dental personnel learning of hepatitis infection in patients only after treatment was completed. Of real concern to the dental practitioner is the high number of undiagnosed carriers of diseases. In the case of Hepatitis B, there are four undetected carriers for each known carrier. This presents an even more serious problem when resultant infection to the dental staff may then be transmitted to patients and family members. According to one source, there are 3,000 undetected Hepatitis B carriers working in the dental profession right now, representing a carrier rate of three to 10 times that of

the general population.

Hepatitis B is not the only disease of importance to the dental practitioner. Non A/Non B Hepatitis represents 26% of the hepatitis in the population and Type A accounts for 4%. The latest form of viral hepatitis to be recognized, delta virus, is seen as a concomitant infection with Hepatitis B. Delta virus has a higher morbidity rate, and is a particularly severe problem for Hepatitis B carriers. Fortunately, a vaccine is available that effectively prevents Hepatitis B and delta virus infection.

Recently, AIDS has become the catalyst for concern and action regarding infection control in dental practice. To date, no case of AIDS infection has been reported among dental personnel or dental patients as a result of treatment. Saliva has not been shown to transmit the virus and to result in AIDS or ARC (AIDS Related Condition) in the absence of intimate contact, but we believe all individuals in a health care setting should err on the side of caution given our relative exposure rates.

The Division of Dental Health of the Indiana State Board of Health has responded to the needs and demands of the public and profession. Currently, the Dental Division is organizing a comprehensive infection control education program for dental practitioners and dental auxiliaries within the state. The program will take the form of a telecommunication originating from the Indiana University School of Dentistry. The Indiana Dental Association is providing promotional activities for the 90-minute program to be aired on January 14, 1986, at 13 regional sites throughout Indiana. Those sites are as follows:

Indiana University Northwest  
Indiana University South Bend  
Indiana University Purdue University Fort Wayne  
Indiana University Richmond  
Ball State University  
Indiana University Kokomo

Purdue University  
Indiana State University  
Indiana University Bloomington  
Indiana University Southeast  
Indiana University School of Dentistry  
Vincennes University  
University of Southern Indiana

The ultimate goal of the infection control education program is to protect the health and safety of dental patients and dental personnel. The objectives of the program are:

1. To provide background information and an infectious disease update on hepatitis and AIDS.
2. To discuss the clinical and legal concerns of Indiana dental practitioners relating to infection control.
3. To recommend measures of dental infection control resulting in a positive change of practice procedures.

Program effectiveness will be measured by changes in dental practice behavior as a result of the telecom. A baseline questionnaire will be completed by participants regarding attitudes toward asepsis and the use of "barrier techniques" (i.e., gloves, masks, glasses). An identical questionnaire will be sent to participants six months following the program to measure any changes in infection control procedures. Evaluation of the appropriateness of the program will be made by the participants in the form of a questionnaire at the end of the telecom.

Interest on the part of the dental profession is expected to be high, and enrollment in the program is limited. Each dentist is asked to bring only one auxiliary. Program tapes (audio and video) will be made available along with printed materials to individual dental offices, dental society meetings, and local dental study clubs.

For further information concerning infection control in dentistry, contact the Indiana State Board of Health, Division of Dental Health, AC 317/633-8417.



## **“...Your financial security specialists are on call”**

American Physicians Life believes a physician's financial security deserves specialized attention. That's why our products and services are designed with the doctor in mind. Our comprehensive portfolio of services, including life insurance, professional disability income coverage, qualified plans and tax-deferred annuities, is customized to meet your personal financial planning needs as well as those of your professional corporation.

Let American Physicians Life secure your financial planning program—that's our specialty!

**For more information contact:**  
Williams/Townsend Associates  
8900 Keystone Crossing, Suite 500  
Indianapolis, Indiana 46240  
(317) 844-3119

**Endorsed by the  
Indiana State Medical Association**



**AMERICAN PHYSICIANS LIFE**

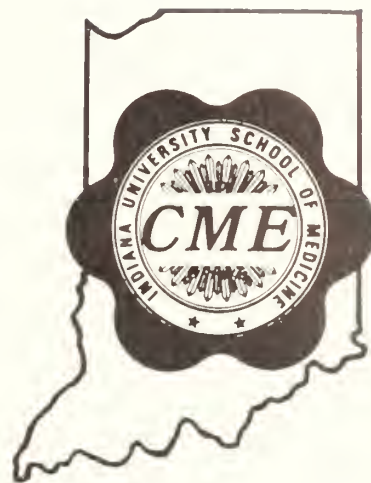
Bates Drive, P.O. Box 281  
Pickerington, Ohio 43147  
Telephone (614) 864-3900

Toll-free in Ohio, 1-800-282-7515  
Toll-free outside Ohio, 1-800-742-1275

INDIANA MEDICINE offers its readers a Continuing Medical Education series of articles prepared by the faculty of the Indiana University School of Medicine. The program is coordinated and supported by a grant from the school's Division of Continuing Medical Education.

As an organization accredited for continuing medical education, the Indiana University School of Medicine certifies that this CME activity meets the criteria for one credit hour in Category I for the Physician's Recognition Award of the American Medical Association, provided it is used and completed as designated.

To obtain Category 1 credit for this month's article, complete the quiz on page 111.



# Carcinoma of the Endometrium

## Changing Patterns and Philosophy of Treatment

---

SHAILAJA REDDY, M.D.  
Indianapolis

---

**C**ANCER OF THE UTERINE corpus is the most common gynecologic malignancy in American women. The American Cancer Society estimates that 30,000 new cases of uterine cancer will be diagnosed this year and 2,900 individuals will die of this disease. Approximately 75% of patients are diagnosed in Stage I, making this cancer amenable to curative treatment.

The recent increase of cancer of the endometrium is attributed to 1) greater availability of diagnostic tests, so that more cases are detected; 2) an increase in the number of women reaching the age for development of endometrial cancer (this increase is due again to better medical care); 3) a worldwide increase in endometrial cancer due to environmental and unknown factors. Increased use of estrogen in post-

menopausal women has been associated with a rise in endometrial cancer.<sup>1</sup>

Endometrial cancer develops during both the reproductive and menopausal years. The median age of patients is 61 years, with the majority of patients presenting between 50 and 59 years. Five percent of patients are diagnosed before age 40 and 20% to 25% before menopause.

The clinical stage significantly influences survival and, hence, the indicated treatment. The grade of tumor is equally important as a prognostic factor (see Table 1). Patients with well differentiated tumors (Grade I) have a 37% greater survival on a stage-for-stage basis as compared with patients with poorly differentiated (Grade III) disease.<sup>2</sup> In well-differentiated tumors, a 3.1% incidence of pelvic lymph node

---

From the Dept. of Radiation Oncology, Indiana University School of Medicine, Indianapolis.



involvement occurs in contrast to 36% of the patients with poorly differentiated tumors who were found to have pelvic lymph node involvement.<sup>3</sup>

Depth of myometrial invasion tends to parallel the histologic grade and relates closely to the incidence of positive lymph nodes as seen in patients who underwent lymph node dissection or node sampling.<sup>3</sup> In these patients a 10-fold increase in pelvic lymph node metastasis in deep myometrial invasion appeared as compared to patients with tumors limited to the endometrium alone. Deep myometrial invasion is three to four times more common in patients with Grade III tumor than in those with Grade I tumor.<sup>2</sup>

Uterine size has been considered a prognostic factor and is the basis for staging according to the FIGO system. (See Table 2.) However, recent reports have failed to demonstrate any difference in survival between these two subgroups of Stage I endometrial cancer patients.<sup>4</sup> Among prognostic factors, the age of the patient is considered to affect the outcome of the disease. More elderly patients present with more advanced stage, higher grade, and deep myometrial invasion which results in a decreased five-year survival rate.<sup>5</sup>

The presence of malignant cells in the peritoneal washings has been shown to be of poor prognostic significance in patients with endometrial carcinoma.<sup>6</sup> The most common site of failure after surgery for endometrial cancer is the vaginal vault. Vaginal recurrence following primary treatment usually signals concomitant pelvic disease and carries a poor prognosis. The risk of developing metastases can be correlated with those high risk factors mentioned above.

In a patient with Grade I endometrial carcinoma, the incidence of vaginal recurrence is reported to be 4.4% and Grade II adenocarcinoma 5.7%, whereas a Grade III tumor has a 13.6% incidence of vaginal recur-

**TABLE 1**  
**Prognostic Factors in**  
**Endometrial Adenocarcinoma**

Stage of disease
Histologic differentiation
Myometrial invasion
Lymph node metastasis
Peritoneal cytology
Treatment method

rence. The degree of myometrial invasion correlates directly with the incidence of vaginal recurrence. Without evidence of myometrial involvement, 3.7% of patients develop vaginal recurrence compared to 4.7% with superficial myometrial involvement and 15.1% with deep myometrial involvement.<sup>7</sup>

#### Therapeutic Management

A remarkable diversity of opinion exists among clinical investigators regarding the optimal management of patients with endometrial carcinoma. In general, the preferred treatment for all medically operable patients with endometrial carcinoma is a total abdominal hysterectomy and bilateral salpingo oophorectomy. In recent years, selected patients have undergone a lymphadenectomy to assess pelvic and para-aortic lymph nodes. These data supplement other prognostic information such as the assessing uterine size, degree of histological differentiation, and depth of myometrial involvement.

Radical hysterectomy has been evaluated as a treatment approach in endometrial cancer. This radical procedure yields no significant improvement over the total abdominal hysterectomy and bilateral salpingo oophorectomy. However, morbidity was shown to be higher with the more radical operation.<sup>8</sup>

#### Role of Radiation Therapy

No clear-cut agreement has been reached as to how radiation therapy

and surgery can best be combined. Preoperative radiation therapy has the advantage of not only encompassing the primary tumor area and vagina to decrease the chance of vaginal recurrence and wound seeding, but also delivering a tumoricidal dose to the areas of potential lymph node involvement in the pelvis which will not be surgically removed.

Those who favor preoperative implant assert that it has the advantage of restoring normal anatomy by shrinking bulky uterine disease. In a group of patients who received preoperative radiation therapy followed by surgery, 67% of the uterine specimen failed to reveal residual disease, demonstrating the effectiveness of radiation therapy in sterilizing the tumor.<sup>9</sup> The integrity and health of the normal tissue are intact preoperatively, and less chance of the small bowel being fixed in the field of radiation therapy exists. Therefore, less bowel damage results with preoperative radiation therapy.

However, a major disadvantage of this approach is a delay of definitive treatment and the possible obscuration of significant prognostic factors. The preoperative implant increases the bladder and rectal doses and thus compromises the ability to deliver adequate postoperative external beam therapy, if indicated. Moreover, the implant delivers its highest dose to the tissue that will be surgically removed.

#### Postoperative Radiation Therapy

Surgical exploration prior to radiation therapy provides prognostic information not available with clinical staging alone. These data can serve as a basis for modifying post-operative therapy, thus eliminating some of the patients who do not require radiation therapy.

The group of patients who reveal deep myometrial invasion, lymph node metastasis, involvement of the cervix, tubes or ovaries, should receive 5,000 cGy midline pelvic dose with megavoltage radiation therapy equipment to decrease local regional failure.



The group of patients who are at risk for vaginal recurrence but do not require pelvic radiation therapy would benefit from post-operative intravaginal implant. This procedure does not require general anesthesia and carries a minimal morbidity. At the time of operation if there are malignant cells in the pelvic washings, postoperative instillation of intraperitoneal radioactive chromic phosphorus appears to be efficacious.<sup>6</sup>

### Stage I Carcinoma

Generally, patients with Stage I, Grade I, endometrial carcinoma have a favorable prognosis and no documentation favors the addition of radiation therapy to improve the survival of patients. However, if at the time of exploration, unfavorable prognostic factors such as more than one-third myometrial invasion, involvement of the cervix or lymph nodes are found, radiation therapy should be given postoperatively.

In a recent series of 577 patients, the observed five-year survival rate among 179 patients with Stage I, Grade I lesion treated by surgery alone was 93%, with a relative survival of 100%.<sup>10</sup> In this same series, the observed five-year survival rate among 135 patients with Stage I, Grade II lesions treated by surgery alone was 85%, with a relative survival of 95%. A higher recurrence rate in this series of patients with Grade II lesions appears to correlate with an approximate three-fold increase in the incidence of deep myometrial invasion. This subgroup with deep myometrial invasion would appear to benefit from combined modality therapy.

Patients with an intermediate grade tumor without any other high-risk factors would benefit from postoperative intravaginal radiation therapy to the vaginal vault to control micrometastasis. Individuals who are found to have positive pelvic washings are suitable candidates for postoperative intraperitoneal radioactive phosphorus instillation.<sup>6</sup> This program of initial

<p>TABLE 2 FIGO Classification of Endometrial Carcinoma*</p>	
<p>Stage 0—Carcinoma <i>in situ</i>. Histologic findings are suspicious of malignancy; cases of stage 0 should not be included in any therapeutic statistics.</p>	
<p>Stage I—The carcinoma is confined to the corpus.</p>	
Stage IA:	The length of the uterine cavity is 8 cm or less.
Stage IB:	The length of the uterine cavity is more than 8 cm.
<p>It is desirable that the Stage I cases be subgrouped with regard to the histologic type of the adenocarcinoma as follows:</p>	
G1:	Highly differentiated adenomatous carcinoma
G2:	Differentiated adenomatous carcinoma with partly solid areas
G3:	Predominantly solid or entirely undifferentiated carcinoma
<p>Stage II—The carcinoma has involved the corpus and cervix but has not extended outside the uterus.</p>	
<p>Stage III—The carcinoma has extended outside the uterus but not outside the true pelvis.</p>	
<p>Stage IV—The carcinoma has extended outside the true pelvis or has obviously involved the mucosa of the bladder or rectum. A bullous edema as such does not permit a case to be allotted to Stage IV.</p>	
Stage IVA:	Spread of the growth to adjacent organs
Stage IVB:	Spread to distant organs
<p>*Beahrs OH, Myers MH (editors): <i>Manual For Staging Of Cancer</i>, ed 2. Philadelphia, J.B. Lippincott Company, 1983, p 140.</p>	

surgery offers the distinct advantage of providing knowledge of the true extent of disease prior to planning adjuvant radiation therapy.

### Stage II Carcinoma

Extension of disease to the uterine cervix increases the likelihood of

vaginal, parametrial and regional lymph node involvement. The risk of pelvic lymph node involvement appears to correlate with the extent of cervical involvement. A 29.4%-36.5% incidence of pelvic lymph node involvement has been reported in Stage II patients.<sup>11,12</sup> Therefore, the treatment

recommended must encompass these sites of potential metastatic spread. Radical hysterectomy plus pelvic lymphadenectomy has been undertaken for Stage II disease with good results.<sup>13</sup> However, a significantly high incidence of pelvic lymph node metastases will require postoperative radiation therapy. Morbidity from the combination of radiation therapy and such a radical operation is expected to be quite significant, which makes this approach less desirable in this patient population.

Patients treated with a combination of external pelvic radiation therapy and intracavitary cesium implant followed by a total abdominal hysterectomy and bilateral salpingo oophorectomy showed no evidence of pelvic recurrence.<sup>14</sup> Apparently, irradiation combined with a total abdominal hysterectomy and bilateral salpingo oophorectomy results in excellent survival with minimal morbidity. A more radical surgical procedure either alone or combined with radiation therapy appears to offer no advantage.

Radiation therapy alone for Stage II endometrial cancer should be reserved for patients who are poor surgical candidates. The prognosis seems to be worse in patients with gross involvement of the cervix compared to microscopic involvement. Failure rates were noted to be 44% and 5% respectively.<sup>15</sup>

### Stage III Carcinoma

Stage III endometrial cancer includes a heterogeneous group of patients in whom the disease extends beyond the uterine corpus and cervix, but not beyond the true pelvis. Two prognostically separate subgroups of patients comprise the Stage III category.

Patients who are Stage III due to the involvement of the fallopian tubes and ovaries have a far better prognosis compared to the group with extension to the vagina, parametria, or pelvic sidewalls. A relapse rate of 20% and 73%, respectively, has been reported.<sup>16</sup>

Involvement of the tubes and ovaries

is classically discovered during surgical exploration for Stage I cancer. In this group of patients, postoperative 5,000 cGy midline tumor dose in 5½ weeks to the pelvis is advocated to control locoregional recurrence. These patients are at high risk for extrapelvic metastases and are, therefore, candidates for adjuvant progestational agents.

For patients who are Stage III due to involvement of the parametria, pelvic sidewalls, or vaginal canal, curative radiation therapy is recommended. This should consist of whole pelvic radiation therapy followed by one or two intracavitary implants. The dose recommended to the pelvic sidewalls is in the range of 5,000 to 5,500 cGy. In addition, the implant delivers 3,000 to 4,000 cGy to the paracervical area in one or two applications.

### Stage IV Carcinoma

Individualized treatment is indicated in this prognostically poor group of patients. A small number of patients with tumor extension to the bladder or rectum may be salvaged by aggressive therapy. Treatment is palliative in most cases and is aimed toward relieving pelvic pain and vaginal discharge or bleeding, thus improving the quality of survival. This therapy is recommended even in the presence of distant disease.

In patients with local symptoms of pain, discharge, or bleeding, a short course of high-fraction radiation therapy to a limited pelvic port is suggested. At the Indiana University Medical Center, 500 cGy midline tumor dose daily to a total of seven treatments using megavoltage equipment has proved quite successful in achieving meaningful palliation in advanced endometrial cancer patients.

### Radiation Therapy as the Only Curative Alternative

Many patients with endometrial carcinoma present with multiple problems such as obesity, diabetes, hypertension, and/or heart disease, which, in severe cases, may contraindicate surgery,

rendering radiation therapy as the only therapeutic alternative for this group of patients.

In such special circumstances, radiation therapy is given with a curative intent rather than as an adjuvant to surgery. Patients with Stage I, Grade 1 adenocarcinoma can be effectively treated with intracavitary radiation alone, since the incidence of lymph node involvement is too low to warrant pelvic radiation therapy.<sup>3</sup>

Intracavitary radiation utilizing cesium sources consists of an afterloading Fletcher Suit system of tandem, supplemented by an afterloading Simon's Capsules in the uterine cavity to obtain better depth dose distribution. Afterloading Fletcher colpostats are used in the vaginal fornices to deliver an adequate mucosal dose to control micrometastases. All other patients with endometrial cancer are approached with a combination of external pelvic radiation therapy and intracavitary implant with Fletcher Suit tandem, vaginal colpostats, and Simon's Capsules.

With better techniques and superior megavoltage radiation therapy equipment, improving survivals have been reported by using radiation therapy alone in early staged endometrial cancer.<sup>17,18</sup> In a recent report of Stage I patients treated with curative radiation therapy, a five-year determinate survival of 72% was obtained.<sup>17</sup> These results are definitely poorer than those achieved either by surgery alone or in combination with radiation therapy. Nevertheless, the improved survival rate by radiation therapy alone in the patient population which does not have any alternative treatment remains a considerable achievement.

Reports in the literature regarding endometrial cancer patients treated with radiation therapy alone usually pertain to a group of more seriously ill individuals with severe and uncontrollable associated medical problems. With advances in medical and surgical technology, fewer and fewer patients with endometrial cancer will fall into

the medically inoperable category. Nevertheless, the occasion will continue to arise infrequently when a patient with endometrial cancer is found to be inoperable or refuses surgery. It, therefore, becomes important to know what radiation therapy alone can accomplish in these few patients as an alternative curative modality.

The radiation therapy technique utilized affects failure rates. The highest incidence of pelvic control is seen in a group of patients treated with a combination of external pelvic radiation therapy and an intracavitary implant.<sup>17</sup> The complication rate reported in patients treated with a curative intent remains low.<sup>18</sup> A higher incidence of failure appears with advancing stage and tumor grade.

#### Prognosis

Generally, patients with early stage disease carry a good prognosis if treated by modern progressive treatment programs. Survival rates in early Stage I endometrial cancer vary between 80% and 90%.<sup>4,10</sup> Seventy percent of the failures occur within the first two years after treatment and more than 90% of the deaths related to tumor will occur during the first five years. Survival for Stage II and III endometrial cancer patients depends upon the extent of involvement and treatment approach. An optimum individualized treatment must be offered employing the multidisciplinary team approach to obtain long-term control.

#### REFERENCES

1. Ziel HK, Finkle WD: Increased risk of endometrial carcinoma among users of conjugated estrogens. *N Engl J Med*, 293:1167-1170, 1975.
2. Cheon HK: Prognosis of endometrial carcinoma. *Obstet Gynecol*, 34:680-684, 1969.
3. Creasman WT, Boronow RC, Morrow CP, et al: Adenocarcinoma of the endometrium: Its metastatic lymph node potential. *Gynecol Oncol*, 4:239-243, 1976.
4. Salazar OM, Feldstein ML, DePapp EW, et al: The management of clinical stage I endometrial carcinoma. *Cancer*, 41:1016-1026, 1978.
5. Sall S, Sonnenblick B, Stone ML: Factors affecting survival of patients with endometrial adenocarcinoma. *Am J Obstet Gynecol*, 107:116-123, 1970.
6. Creasman WT, DiSaia PJ, Blessing J, et al: Prognostic significance of peritoneal cytology in patients with endometrial cancer and preliminary data concerning therapy with intraperitoneal radiopharmaceuticals. *Am J Obstet Gynecol*, 141:921-929, 1981.
7. Price JJ, Hahn GA, Rominger CJ: Vaginal involvement in endometrial carcinoma. *Am J Obstet Gynecol*, 91:1060-1065, 1965.
8. Jones HW III: Treatment of adenocarcinoma of the endometrium. *Obstet Gynecol Surv*, 30:147-169, 1975.
9. Tak WK, Marchant DJ, Munzenrider JE, et al: Preoperative irradiation for carcinoma of the endometrium: Indications and results. *Gynecol Oncol*, 5:18-26, 1977.
10. Malkasian GD Jr, Annegers JF, Fountain KS: Carcinoma of the endometrium: Stage I. *Am J Obstet Gynecol*, 136:872-888, 1980.
11. Berman ML, Ballon SC, Lagasse LD, et al: Prognosis and treatment of endometrial cancer. *Am J Obstet Gynecol*, 136:679-688, 1980.
12. Morrow CP, DiSaia PJ, Townsend DE: Current management of endometrial carcinoma. *Obstet Gynecol*, 42:399-406, 1973.
13. Homesley HD, Boronow RC, Lewis JL Jr: Stage II endometrial adenocarcinoma, Memorial Hospital for Cancer, 1949-1965. *Obstet Gynecol*, 49:604-608, 1977.
14. Bruckman JE, Goodman RL, Murthy A, et al: Combined irradiation and surgery in the treatment of stage II carcinoma of the endometrium. *Cancer*, 42:1146-1151, 1978.
15. Kinsella TJ, Bloomer WD, Lavin PT, et al: Stage II endometrial carcinoma: 10 year follow-up of combined radiation and surgical treatment. *Gynecol Oncol*, 10:290-297, 1980.
16. Bruckman JE, Bloomer WD, Marck A, et al: Stage III adenocarcinoma of the endometrium: Two prognostic groups. *Gynecol Oncol*, 9:12-17, 1980.
17. Patanaphan V, Salazar OM, Chougule P: What can be expected when radiation therapy becomes the only curative alternative for endometrial carcinoma? *Cancer*, 55:1462-1467, 1985.
18. Andersen WA, Peters WA III, Fechner RE, et al: Radiotherapeutic alternatives to standard management of adenocarcinoma of the endometrium. *Gynecol Oncol*, 16:383-392, 1983.

## INDIANA MEDICAL BUREAU

1010 East 86th St.—72 Winterton

Indianapolis 46240

844-7933

A Licensed Employment Agency  
Specializing in Medical Personnel

Since 1952



# Infant and Child Resuscitation

## Review and Update



PEDIATRIC  
CRITICAL CARE MEDICINE

LYN MEANS, M.D.  
Indianapolis

**C**ARDIOPULMONARY ARREST is the cessation of functional ventilation and circulation. In children, the primary condition that leads to an arrest is usually noncardiac in nature, such as sudden infant death syndrome, drowning, or respiratory embarrassment (e.g., epiglottitis, foreign body aspiration, pulmonary infections, or asthma).<sup>1,2,3</sup> Pediatric cardiac arrest is usually a secondary event due to hypoxia, and the most common presenting cardiac rhythm is asystole.<sup>1,2</sup> Adult victims most often present with arrest from a primary cardiac origin, and the most common rhythm at presentation is ventricular in origin. Because the etiologies of cardiopulmonary, as well as basic physiology and anatomy, differ between the adult and pediatric population, the approach to cardiopulmonary resuscitation (CPR) differs as well. The remainder of this discussion reviews the unique aspects of pediatric CPR and concludes with a look at CPR outcome in pediatric patients.

### Airway

Correct positioning of the infant's (• 1 year) or child's (1-8 yrs) head is necessary for effective mouth-to-mouth or bag-and-mask ventilation or intubation. This is referred to as a "sniffing position" in which the head is *slightly* extended with the jaw thrust forward. A small roll between the shoulder blades may help maintain the head in

correct position. Extreme hyperextension of the neck will obstruct the airway and interfere with visualization of the larynx during intubation.

Airway obstruction from foreign body aspiration is a not uncommon precipitating event in pediatric cardiopulmonary arrest; a high index of suspicion should be maintained if a child cannot initially be adequately ventilated. To clear an obstructed airway of a suspected foreign body, abdominal thrusts have not been recommended (although this is becoming increasingly controversial) for infants and children due to the potential for liver trauma.<sup>4</sup>

Back blows and chest thrusts are recommended at present. Proper technique for the administration of back blows is with the victim's head lower than the trunk. Blind finger probes in infants and children may push the foreign body more deeply into the trachea. Instead, the rescuer's thumb is placed in the victim's mouth over the tongue, the lower jaw is lifted forward, the mouth opened widely and an attempt is made to visualize and remove a foreign body.

### Breathing

Once an airway is established, and if spontaneous respirations are absent, artificial ventilation is begun either by mouth-to-mouth, mouth-to-mouth-and-nose, or bag-and-mask. Four breaths are administered in rapid succession while chest wall excursion is observed to evaluate the adequacy of ventilation. Breaths delivered with excessive force and volume should be avoided as this increases the risk of gastric distention and emesis. The respiration rate is 20

The author is an Assistant Professor of Anesthesiology and Surgery, Indiana University School of Medicine, Indianapolis.

Correspondence: 4534 N. Pennsylvania St., Indianapolis, Ind. 46205.

breaths per minute (bpm) if • 1 year of age, 16 bpm if 1-8 years old, and an adult rate of 12 bpm if the child is over 8 years old.

If the trachea requires intubation, attention to correct head position (i.e., sniffing position) and anatomical differences between pediatric and adult patients should be kept in mind. The larynx of a child is obviously smaller, more anterior and cephalad than in adults, the epiglottis longer and stiffer, and the angle formed by the epiglottis and vocal cords more acute. These differences combined with the child's smaller mouth and relatively larger tongue make pediatric intubations more difficult for the person who infrequently performs them.

Utilization of a straight blade (e.g., Miller or Wis-Hipple), for laryngoscopy allows the epiglottis to be lifted by the blade tip. Correct endotracheal tube (ETT) size can be determined in most cases by the formula  $16 + \frac{\text{age years}}{4} =$

mm I.D.; for example, a 3-year-old child would require a 4.5 uncuffed oral tracheal tube. Obviously, if the child is suspected of having or known to have a disease process which would cause narrowing of the larynx, a smaller ETT than calculated would be used. Tracheal tube sizes recommended for under one year are 3.0 mm for NB, 3.5 for 6 months, and 4.0 mm for 1 year of age. Generally, uncuffed tubes are preferred in children 6 years old and less. To determine depth of ETT placement, the formula  $\frac{\text{age}}{2} + 12$  is a

rough guideline. The calculated number in cm. is printed on the tube at the corner of the mouth when the tube is taped in place. Always auscultate for breath sounds and confirm ETT placement by chest x-ray.

During resuscitation and preparation for intubation, oxygen toxicity is of no concern and maximum inspired oxygen concentration should be utilized. Once intubation has been accomplished, a gastric tube should be passed to decompress the stomach.

TABLE 1  
First-Line Resuscitation Drugs

Drugs	Dose	Route	Comment
Epinephrine 1:10,000	10 mcg/kg (0.1 ml/kg)	IV*, ETT*	Not 1:1000 concentration!
Sodium bicarbonate	1 meq/kg (1 ml/kg)	IV	Dose guided by arterial pH
Calcium gluconate 10% (100 mg/ml)	60 mg/kg (0.6 ml/kg)	IV	Give slowly - use with caution in digitalized patients
Calcium chloride 10% (100 mg/ml)	20 mg/kg (0.2 ml/kg)	IV	See calcium gluconate
Atropine	0.01 mg/kg	IV, TT	Minimum dose 0.1 mg
Lidocaine	1 mg/kg	IV, TT	Lower dose if liver dysfunction or congestive heart failure present
Defibrillation	Initial 2 watt-sec/kg; if unsuccessful 4 watt-sec/kg		Use with caution in digitalized patient; may result in asystole

\*IV intravenous, ETT tracheal tube

#### Circulation

Precordial chest thumps are not used in children due to the risk of organ damage. Presence or absence of a pulse can be confirmed by palpating the brachial artery at the mid-upper arm in infants and the carotid artery in children. The ratio of cardiac compressions to ventilation remains the same regardless of age or size, but the rate differs depending upon the age of the child. The standard in the two-rescuer technique is five cardiac compressions to one ventilation; in the one-rescuer technique, 15 cardiac compressions to two ventilations is the standard.

Therefore, with a two-rescuer technique, in infants 100 cardiac compressions to 20 breaths/minute, and in 1-8 year olds 75 cardiac compressions to 15 breaths/minute are administered.

The compression method and depth also differ with age. In infants the rescuer uses two or three fingers on the midsternum or encircles the chest with his hands using both thumbs to compress the sternum.<sup>4</sup> For small children one uses three fingers for compression and for a larger child the heel of one hand. The depth of compression is 1/2 to 1 inch in • 1 year and 1 to 1 1/2 inches in 1-8 year old children. Exter-

**TABLE 2**  
**Drugs Administered by Continuous Infusion**

<u>Drugs</u>	<u>Dose</u>	<u>Comment</u>
Dopamine	1-20 mcg/kg/min	Does not compromise renal circulation at low doses. As dose increases, produces more vasoconstriction
Dobutamine	1-20 mcg/kg/min	Increases myocardial contractility; minimal systemic arterial constriction
Epinephrine	0.1-2 mcg/kg/min	Titrate to effect
Norepinephrine	0.1-2 mcg/kg/min	Renal and mesenteric vasoconstriction. Titrate to effect
Isoproterenol	0.01-2 mcg/kg/min	Useful in respiratory failure of status asthmaticus. May increase myocardial oxygen consumption disproportionate to supply.
Lidocaine	20-50 mcg/kg/min	Used for ventricular tachyarrhythmias. Monitor blood levels.

nal cardiac compression should be applied over the lower one-third of the sternum. Lacerations of the liver may occur from improper technique. If compression is allowed to slip below the lower one-third or to either side of the sternum, rib dislocation may occur with visceral perforation. Cardiac compression should be 50% of the cycle time and allow a distinct pause at maximal compression.

How closed cardiac massage works or its effectiveness in terms of coronary artery and cerebral perfusion is uncertain.<sup>7</sup> Originally, it was thought that blood flow during CPR was the result of cardiac compression between the sternum and vertebral columns, which "squeezed" blood from the heart. More recently, it has been postulated that increased intrathoracic pressure produced by chest compression increases the pressure uniformly in all

intrathoracic vascular structures. This results in a pressure gradient between intra- and extrathoracic arteries and forward blood flow during chest compression (venous valves prevent retrograde blood flow). When chest compression is released, there is a gradient between extra- and intrathoracic veins, which results in blood flow into the heart.

Peripheral and carotid arterial blood flow in adults has been improved by maximizing intrapleural pressure and has led some authors to recommend simultaneous ventilation and compression (SVC-CPR) to improve cerebral blood flow and hopefully neurological outcome. Critics of SVC-CPR point out that, as intrathoracic pressure increases, so does intracranial pressure. Cerebral perfusion pressure (CPP) is determined by the difference between mean arterial pressure (MAP) and in-

tracranial pressure (ICP). If both MAP and ICP increase in similar increments or if the ICP increases more than MAP, there may be no improvement or a decrease in CPP. Clinical efficacy and application of SVC-CPR, especially in children, remains unproven and not yet recommended.

#### Drugs and Defibrillation

Dosages, routes of administration, and comments for first-line resuscitation drugs are listed in *Table 1*. *Table 2* lists drugs commonly administered by infusion.

Epinephrine has been shown to increase systemic perfusion pressure during cardiac compression, improve contractility, stimulate spontaneous contractions, increase myocardial tone, and is the drug of choice in anaphylactic shock. The drug may require repeated IV doses at five-minute intervals due to its short duration of action. If venous access cannot be established, epinephrine can be given via tracheal tube.

Sodium bicarbonate ( $\text{NaHCO}_3$ ) is used in the treatment of severe metabolic acidosis, which may have adverse effects on cardiac and circulatory function. Overcorrection of acidosis with  $\text{NaHCO}_3$  leads to alkalosis, which has its own inherent adverse effects. Therefore, after initial administration, further doses should be guided by arterial pH and base-deficit determination.

Calcium ion increases myocardial contraction and may be useful in electro-mechanical dissociation and ventricular standstill. Caution in administration is recommended—too rapid administration or administration in digitalized patients may result in asystole.

Atropine in low doses may produce a decrease in heart rate; hence, a minimum dose of 0.10 mg is recommended (maximum dose is 1 mg).

For further discussion on the above drugs and other drugs frequently used in BLS and ACLS see references 4 and 5. The volume and occasionally the



dose of a drug may vary depending upon the patient's age and body weight. In areas when pediatric CPR is likely to occur, a notebook with drug doses and volume precalculated and referenced by body weight may be useful.<sup>6</sup>

#### Postresuscitation Care

A detailed discussion of postresuscitation care is beyond the scope of this article. The level of postresuscitation care depends upon the status of the patient and may require simple monitoring and observation or complex invasive monitoring (e.g., pulmonary artery catheterization, ICP measurement, etc.) and intervention if multi-system failure is present. For a brief overview, see reference 4.

#### Outcome

Survival and sequelae from cardiopulmonary arrest differs between adult and pediatric populations. This difference can be explained by the different etiologies and presentations of arrests. A primary respiratory arrest without cardiac arrest in a child carries a prognosis of long-term survival between 75-90%.<sup>8,9</sup> The outcome for CPR in a child with cardiac arrest, is abysmal—greater than 80% mortality or severe morbidity<sup>1,2,8</sup>—much worse than in the adult population. This is because a pediatric cardiac arrest usually presents with asystole or profound bradycardia from an hypoxic event, which also affects other major organ systems, whereas an adult arrest is often a primary cardiac event caused by ventricular arrhythmias, which are

more readily converted to normal rhythm. Improved pediatric survival is associated with the prompt initiation of effective CPR, as one would predict. To better improve survival, further research and development in CPR and cerebral resuscitation techniques are required, as is improved initiation of effective CPR and identification and prevention of causes of arrest in children.

#### Future Development

Many aspects of CPR are currently under intense investigation. One such area is that of closed chest cardiac compression. Simultaneous ventilation compression technique may have deleterious effects due to high airway pressures and may not improve either coronary or cerebral blood flow. Studies suggest that blood flow may indeed be due to a "squeezing" mechanism, especially when the encirclement technique for cardiac compression is used.<sup>7</sup> As more about how different methods of chest compression is understood, alternative techniques of external cardiac massage may be developed and rescuers may choose a technique based upon the patient's underlying pathology and age.

Drug therapy is another area under investigation, especially the effectiveness of and indications for  $\text{NaHCO}_3$  and calcium administered during CPR. Sodium bicarbonate may actually decrease cardiac output and increase lactic acidosis. The administration of calcium may be beneficial in certain conditions (e.g., hypocalcemia, hyperkalemia) but may contribute to

myocardial and cerebral injury following ischemia. Currently, calcium channel blockers are under investigation to determine their usefulness in preserving organ function following an anoxic/ischemic insult.

The next decade will see new concepts and changes in what is now considered standard CPR technique.

#### REFERENCES

1. Torphy DE: Cardiopulmonary arrest and resuscitation of children. *AJDC*, 138:1099-1102, 1984.
2. Eisenberg M: Epidemiology of cardiac arrest and resuscitation in children. *Ann Emerg Med*, 12:672-671, 1983.
3. Ludwig S: Pediatric cardiopulmonary resuscitation. *Clinical Pediatr*, 23:71-75, 1984.
4. American Heart Association and National Academy of Sciences—National Research Council: Standards and Guidelines for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC). *JAMA*, 244:453-508, 1980.
5. Orlowski JP: Cardiopulmonary resuscitation in children. *Ped Clin NA*, 27(3):495-512, 1980.
6. Bond, Cuddy, Nugent, Young: *Pediatric Intensive Care Emergency Resuscitation Manual*, 2nd ed. Indianapolis, Methodist Hospital of Indiana, Inc., 1983.
7. Rogers MC: New developments in cardiopulmonary resuscitation. *Pediatrics*, 71:655-658, 1983.
8. Lewis JK: Outcome of pediatric resuscitation. *Ann Emerg Med*, 12:297-299, 1983.
9. Nichols DG: Factors influencing outcome of cardiopulmonary arrest in children, *Abst. Crit Care Med*, 12:287, 1984.

# Primary Angiosarcoma of the Heart

## A Case Report and Review of the Literature

TSAU-YUEN HUANG, M.D.  
YENSHEN HSUEH, M.D.

**P**RIMARY TUMORS of the heart are extremely rare, and estimated to be 0.0017% in a large series of autopsy.<sup>1</sup> Most of the primary malignant tumors of the heart are sarcomas, and approximately 10 to 30% are angiosarcomas.<sup>2</sup>

This report describes an additional case of primary cardiac angiosarcoma with a brief clinical discussion and review of the literature.

### Case Report

A 34-year-old man had intermittent epigastric pain unrelated to meals for approximately one week. There was no previous history of chest pain or shortness of breath. A few hours prior to admission, he started to vomit and complained of excruciating upper abdominal pain.

Physical examination disclosed tachycardia (125/min.) with regular rhythm. The neck veins were slightly distended. The heart sounds were distant and without murmurs. The body temperature was 98° F. and the blood pressure 100/70 mmHg. Chest x-ray revealed a markedly enlarged heart highly suggestive of pericardial effusion. The lungs showed nodular patterns. The liver function tests were within normal limits. An exploratory thoracotomy with biopsies of the lungs and the pericardial sac were perform-

### Abstract

Primary angiosarcoma of the heart is extremely rare. This report describes a case of primary angiosarcoma of the heart in a 34-year-old man who died of hemorrhagic pericardial effusion. Primary angiosarcoma of the heart occurs most often in the 3rd and

4th decades with two to three times more frequency in men than in women. The clinical symptoms include congestive heart failure, pleuritic chest pain and dyspnea. The prognosis is very poor with most patients dying within one year after the onset of symptoms.

ed. The patient developed severe respiratory failure and died shortly after surgery.

### Autopsy Findings

The heart weighed 775 gm. There was a 5x4x4 cm. bosselated, fungating tumor in the anterolateral wall of the right atrium and protruding into the

right atrial cavity (*Fig. 1*). The tumor involved the endocardium, myocardium, and extended to the pericardium, causing approximately 750 ml. of hemorrhagic pericardial effusion. Cut surfaces of the tumor revealed focal areas of necrosis and hemorrhages. There were multiple metastatic nodules ranging from 0.5 to 2.5cm. in

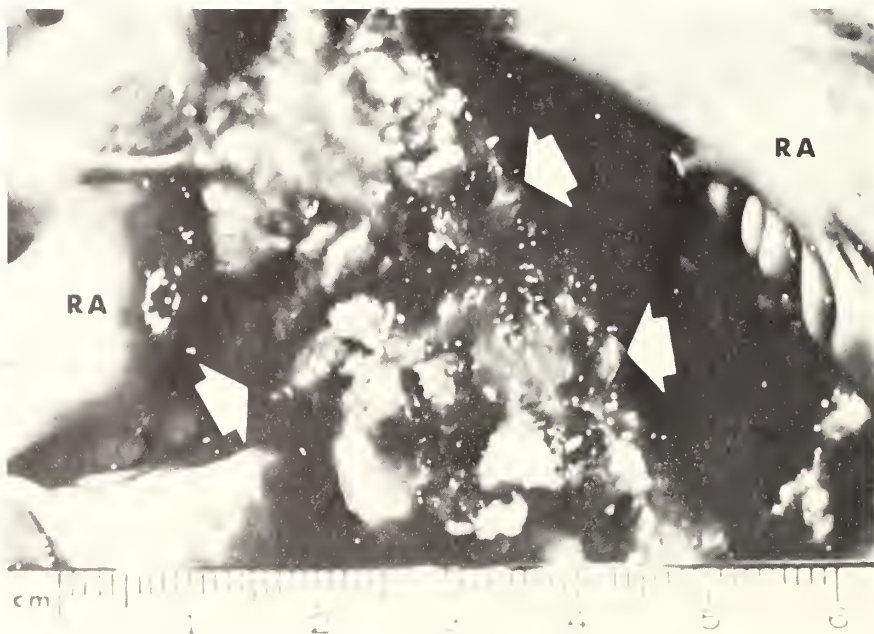


FIGURE 1: A 5x4x4 cm. bosselated, fungating tumor (arrows) in the anterolateral wall of the right atrium (RA) and projecting into the right atrial cavity.

Correspondence: Tsau-yuen Huang, M.D., Dept. of Pathology, St. Mary Medical Center, 540 Tyler St., Gary, Ind. 46402.



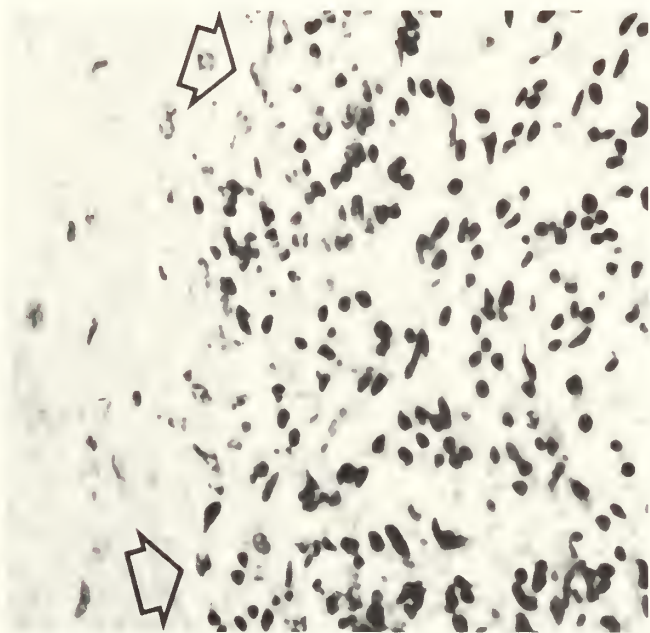


FIGURE 2: Irregular, anastomosing vascular channels lined by pleomorphic, spindle or oval shaped cells. Arrows indicate the junction of the tumor and right atrial wall. (H&E stain, X100)

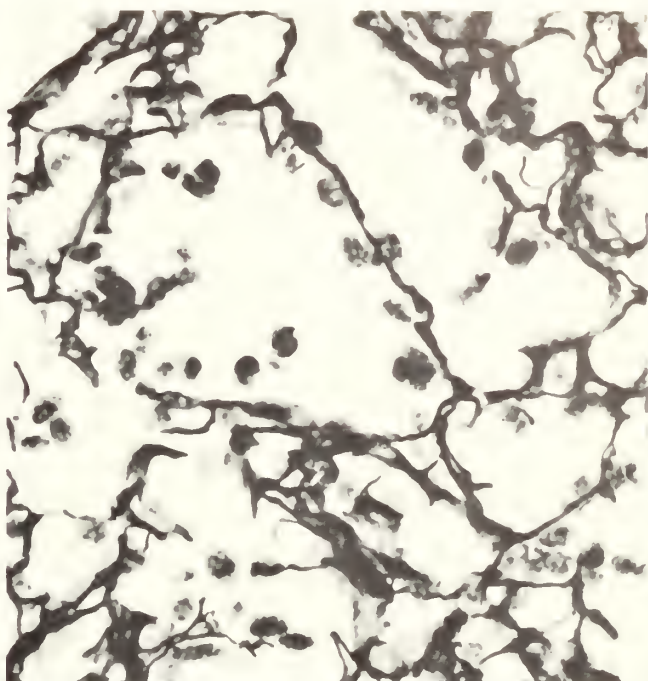


FIGURE 3: Vascular spaces lined by neoplastic endothelial cells surrounded by reticulin fibers. (reticulin stain, x400)

the lungs. Metastatic tumors were also noted in the adrenals and retroperitoneal lymph nodes.

Microscopically, the tumor was composed of irregular, anastomosing vascular channels lined by pleomorphic, spindle or oval shaped cells having ill-defined eosinophilic cytoplasm and large oval to round nuclei (*Fig. 2*). Reticulin stain showed the complex vascular spaces lined by plump, neoplastic endothelial cells surrounded by delicate reticulin fibers (*Fig. 3*).

#### Discussion

Primary angiosarcoma of the heart, although very rare, is the most common primary malignant tumor of the heart, and accounts for 10 to 30% of primary malignant tumors of the heart.<sup>1,2</sup> It occurs most often in the 3rd and 4th decades with two to three times more frequency in men than in women. The tumor arises almost exclusively from the right atrium. Congestive heart failure, pleuritic chest pain and dyspnea are the most common clinical symptoms.

Chest x-rays invariably show cardiomegaly. Electro-cardiographs often show non-specific ST-T wave changes. Occasionally, signs of pericarditis, low QRS voltage, right axis deviation, right bundle branch block, supra-ventricular arrhythmias, or even changes of myocardial infarct may be demonstrated. Detection of the tumor has been reported by using echocardiography,<sup>3</sup> coronary arteriography<sup>4</sup> and technetium-labeled erythrocyte cardiac imaging.<sup>5</sup>

Histopathologic findings of this case are essentially identical to those of angiosarcomas elsewhere in the body. They are characterized by anastomosing vascular channels lined by pleomorphic endothelial cells surrounded by delicate reticulin fibers. Unique intracytoplasmic lumen formation and junctional specialization with neovascular development have been demonstrated ultrastructurally.<sup>6</sup>

The prognosis of the tumor is extremely poor. Most of the patients die of pericardial effusion, pleural effusion or extensive metastases within one

year after the onset of symptoms. However, with more advanced technology to achieve early diagnosis and improvement of the therapeutic regimens, longer survival may be expected in the future.

#### REFERENCES

1. McAllister HA, Fenoglio JJ Jr: Tumors of the cardiovascular system. *AFIP*, Washington DC, 1978.
2. Glancy DL, Morales JB Jr, Roberts WC: Angiosarcoma of the heart. *Am J Cardiol*, 21:413-419, 1968.
3. Panella JS, Paige ML, Victor TA, et al: Angiosarcoma of the heart: Diagnosis by echocardiography. *Chest*, 76:221-223, 1979.
4. Ugarte M, Alonso-Pulpon L, Gonzales-Villa J, et al: Coronary arteriographic findings in a case of primary angiosarcoma of the heart. *Eur Heart J*, 3:577-582, 1982.
5. Bennett MT, Weber PM, Killebrew ET: Primary angiosarcoma of the heart detected by technetium-labeled erythrocyte cardiac imaging. *Cancer*, 49:2587-2590, 1982.
6. Yang HY, Wasielewski JF, Lee W, et al: Angiosarcoma of the heart: Ultrastructural study. *Cancer*, 47:72-80, 1981.



# Esophageal Adenocarcinoma: Case Report

MARK W. BRADLEY, M.D.  
JOHN C. LOWE, M.D.  
Indianapolis

## Abstract

A patient was referred to the gastroenterology service in December 1984 for evaluation of dysphagia and weight loss. Endoscopic examination revealed proximal migration of the gastroesophageal epithelial junction and moderate stenosis. Biopsies of the suspicious area revealed Barrett's epithelium and marked dysplasia. Serial examination and biopsy showed no improvement on an anti-reflux regimen. Examination for occult carcinoma was negative. Biopsy demonstrated adenocarcinoma in March and the patient underwent partial esophago-gastric resection and splenectomy without complication. One of five groups of local nodes was positive for tumor spread. This disease and the management of the patient are discussed.

CARCINOMA OF THE ESOPHAGUS carries a poor prognosis. The five-year survival rate is 22% if the disease is localized, and 5% if there is metastasis.<sup>1</sup> Because dysphagia may not become evident until significant stricture is present in the esophagus, and the variety of upper-GI symptoms, it is not unusual for patients to present late in the course of the disease. Adenocarcinoma comprises from 1 to 15% of esophageal malignancies, the remainder being most commonly squamous cell carcinomas.<sup>2</sup> It is associated with Barrett's columnar metaplasia of the esophagus and many authors consider this a carcinoma *in situ* condition.

## Report of a Case

A 74-year-old white man was referred to the gastroenterologist by his physician for evaluation of progressive dysphagia for solid food over the last year. The patient has lost 20 pounds, and reported the sensation of food "sticking in his throat" and of being able to "follow it down." He had no difficulty with liquids.

Although he stated a history of peptic ulcer disease over the last 30 years and diverticulosis of the colon, the patient denied abdominal pain, nausea, vomiting, diarrhea, constipation, melena or hematochezia. No pain was associated with swallowing. He denied fatigue, night sweats, and bone pain. Appendectomy and herniorrhaphy had been performed in the past, and in the last year he had two excisions of an acanthotic squamous epithelioma from his right vocal cord. A CT of the neck was reportedly normal. He also had a history of mild osteoarthritis.

Medications included Zantac 150 mg bid, Dalmane 30 mg qhs, acetaminophen prn, and Atarax 10 mg tid for "nervousness." Family and

social history were noncontributory. He had quit smoking after a 20 pack-year history and consumed "a little" alcohol.

Exam revealed a normotensive elderly man in no acute distress. No lymphadenopathy was noted. His chest was clear. His abdomen was scaphoid with normal bowel sounds. The liver percussed to 8 cm. There was no organomegaly and the abdomen was nontender without masses.

Outpatient evaluation included a normal CBC, serum electrolytes and urinalysis. Prothrombin time was 12.2s with a control of 11.2s, fasting blood sugar was 109 mg/dL, LDH was 61 U/mL, ALT 68 U/mL, alkaline phosphatase 52 IU/L and uric acid 4.8 mg/dL. Total protein was 7.4 and albumin 4.6 g/dL. Calcium was 9.7 and phosphorous 4.1 mg/dL. Creatinine and BUN were normal. The ESR was 12 mm/min, the CEA was 2.1 ng/ml and a technitium-MDP bone scan showed increased uptake in the spine and hips suggestive of arthritis but no other abnormalities.

Upper-GI panendoscopy demonstrated an area of erythema with stricture formation just proximal to the gastroesophageal junction. Multiple biopsies of this friable area were taken which contained fragments of gastric mucosa with dysplasia, acute inflammation, and necrotic debris. A small 2-3 cm hiatal hernia was present. The stricture was dilated to 46F with bougies and the patient was begun on an intensive anti-reflux regimen, adding antacids and head-of-bed elevation to the patient's Zantac. He was instructed to avoid excessive coffee, tea and alcohol and to avoid lying down after eating.

At follow-up one month later the area of friability in the lower esophagus was again noted. Repeat biopsies showed gastric mucosa with

Correspondence: John C. Lowe, M.D., Gastroenterology Associates, Inc., 1303 N. Arlington Ave., Suite 5, Indianapolis, Ind. 46219.

TABLE 1

## Symptoms of Barrett's Esophagus\*

dysphagia	76%
regurgitation	65
heartburn	59
epigastric pain	24
eructation	29
weight loss	24
hematemesis	12

\*after Sjogren and Johnson<sup>2</sup>

dysplasia in addition to the regeneration that is associated with ulceration and granulation. CT scan showed some prominence around the distal esophagus of uncertain significance. The mediastinum was otherwise normal without lymphadenopathy.

Because of the suspicious nature of the biopsies, upper-GI panendoscopy was again performed six weeks later. At this time a mass lesion appeared to be present in the lower esophagus with the same friable appearance. Biopsies now demonstrated nuclear enlargement, hyperchromasia and numerous mitotic figures. The diagnosis of well-differentiated adenocarcinoma was made and the patient admitted for surgery.

A technetium sulfur-colloid scan of the liver and spleen prior to surgery was normal. A partial esophagogastricectomy, splenectomy and esophagogastrostomy were performed. A well-differentiated adenocarcinoma measuring three centimeters in diameter was present in the distal esophagus. One of five perigastric lymph nodes was found to contain metastatic carcinoma. The spleen was congested but otherwise unremarkable.

The post-operative course was prolonged due to persistent gaseous distention of the colon. He was able to tolerate liquids on the eighth post-op day. His diet was slowly advanced to a regular diet on the 15th post-op day, and he left the hospital three days later.

## Discussion

The replacement of the normal squamous epithelium lining of the esophagus with columnar cells was described by Barrett in 1950.<sup>3</sup> Males predominate, with the average age of diagnosis being 58 years. It is seen in patients with chronic gastroesophageal reflux. Peptic ulceration has occurred in the columnar epithelium. It has been argued that this may be a congenital malformation,<sup>4,5</sup> but most authors today would agree that it is a metaplastic change secondary to chronic inflammation.<sup>6,7</sup> Although reversion to squamous epithelium has been noted after anti-reflux therapy by some,<sup>8,9</sup> most authors feel that it is an irreversible condition despite control of reflux symptoms with medical or surgical therapy.<sup>2,9,10,11</sup>

Symptoms associated with Barrett's esophagus are listed in *Table 1*. The affected patient may give a history of reflux symptoms or documented reflux of 15 to 20 years duration, and will not infrequently state that the symptoms have been improving over the last few years. Such a history suggests that sensitivity to refluxed gastric contents has decreased with the development of Barrett's change. Robbins, *et al.* report radiographic findings of hiatal hernia, stricture, mucosal abnormalities, reflux and ulceration in patients with Barrett's esophagus.<sup>12</sup> This condition is easily recognized at endoscopy by a sharp demarcation between the grey-pink squamous mucosa and the salmon-pink columnar epithelium occurring above the diaphragm in the tubular esophagus instead of its normal location at the diaphragmatic hiatus. There may be edema and congestion, and the area may be friable. Other stigmata of chronic irritation may be present, such as ulceration—the so-called 'Barrett's ulcer,' or stricture. The histologic features are well described by Sjogren and Johnson.<sup>2</sup>

The association of chronic reflux esophagitis, Barrett's esophagus, and esophageal adenocarcinoma has been strengthened since the advent of en-

TABLE 2

## Predisposing Factors for Esophageal Carcinoma\*

benign stricture (secondary to lye ingestion)
hiatal hernia
achalasia
Barrett's esophagus
Plummer-Vinson syndrome
tobacco smoking
heavy alcohol use

\*modified from Morton, *et al.*<sup>11</sup>

doscopy. *Table 2* lists several factors long noted to predispose to esophageal carcinoma. These factors parallel those for Barrett's esophagus. Both conditions are seen most often in white males.<sup>13</sup> Up to 86% of resected adenocarcinomas in one study also demonstrated the presence of Barrett's epithelium.<sup>11</sup> Naef, *et al.* feel the association is sufficient to establish the premalignant nature of the lesion.<sup>10</sup> Rosenberg and colleagues have established a staging system consisting of dysplasia progressing to carcinoma *in situ* and invasive malignancy with metastases.<sup>13</sup>

The incidence of esophageal carcinoma in the United States is 10 per 100,000. It is estimated that in 1985 there will be 9,400 new cases of esophageal carcinoma, with 8,800 deaths. Esophageal carcinoma is predicted to account for 2% of all cancer deaths in the United States.<sup>1</sup> As mentioned above, adenocarcinoma accounts for approximately one-tenth of these lesions. Interestingly, the incidence is higher in the distal esophagus.<sup>2</sup> The disease is seen three times more often in men, and generally occurs after the age of 60.

These findings reveal the importance of close follow-up of these patients. As the histologic changes do not revert to normal even when the reflux is well controlled, serial examinations

are important. The interval between screening in the absence of dysplasia has not been established, but every three to six months would seem reasonable. Both biopsy and brush cytology should be performed. Even if a surgical procedure such as a Nissen fundoplication is performed, the esophagus still needs regular examination.

The treatment when dysplasia is present is less clear. Some advocate immediate surgery, feeling that the changes will inevitably progress to adenocarcinoma and considering the dismal prognosis once the disease is established.<sup>13</sup> If a stricture is present, this can obscure adequate visual examination as well as interfere with directed biopsies. Brush cytology is especially helpful in this situation. In the case presented here, repeat biopsies were done at approximately four to six week intervals, during which time a search was made for occult metastases.

Once the diagnosis of adenocarcinoma is made, immediate treatment is clearly indicated. The location of the neoplasm is the prime factor in considering the mode of therapy. Upper esophageal lesions are treated with radiation whereas those in the lower esophagus are treated surgically. Size and depth of invasion are also important considerations. The likelihood of distant metastasis is increased for lesions greater than five centimeters in diameter. Metastasis is usually via the lymphatics although hematogenous spread also occurs. Besides lymph nodes, spread is common to the liver, lungs, and pleura.<sup>14</sup>

Surgeries for esophageal carcinoma include subtotal and total esophagectomy with resection of any affected areas of the stomach. Continuity is reestablished by anastomosing the remnants of the stomach and esophagus. Substernal transplant of

**TABLE 3**  
**Tests Used in the Staging of**  
**Esophageal Carcinoma\***

CBC, alkaline phosphatase, AST,  
bilirubin  
barium swallow  
esophagoscopy  
laryngoscopy and bronchoscopy  
chest film  
thoracic CT scan  
scalene node biopsy  
mediastinoscopy  
liver-spleen and bone scan

\*after Morton, *et al.*<sup>14</sup>

the descending colon between the cervical esophagus and stomach may be performed. Radiation is recommended for lesions above the aortic arch. Good palliation is achieved with both subjective and objective improvement.

The patient discussed above had no evidence of distant metastases and a mediastinal CT was normal except for changes around the distal esophagus. One-fifth of resected lymph nodes were positive for spread from this less than five centimeter diameter lesion. It was felt that his adenocarcinoma was completely excised and a complete recovery was anticipated. His anastomosis was successful and he left the hospital without dysphagia.

Tests useful in the staging of this neoplasm are listed in Table 3. Obviously, distant spread precludes a successful outcome. Combined surgery and radiation treatment does not seem to offer advantages at this time. Adjuvant chemotherapy with Cisplatin, Doxorubicin and Bleomycin, among others, is under study.<sup>15</sup>

**REFERENCES**

1. Silverberg E: Cancer statistics, 1985. *Ca-A Cancer J for Clin*, 35:19-36, 1985.

2. Sjogren RW, Johnson LF: Barrett's esophagus: a review. *Am J Med*, 74:313-21, 1983.

3. Barrett NR: Chronic peptic ulcer of the esophagus and 'esophagitis.' *Brit J Surg*, 38:175-82, 1950.

4. Barrett NR: The lower esophagus lined by columnar epithelium. *Surgery*, 41:881-94, 1957.

5. Abrams L, Heath D: Lower esophagus lined with intestinal and gastric epithelia. *Thorax*, 20:66-72, 1965.

6. Dayal Y, Wolfe HJ: Gastrin-producing cells in ectopic gastric mucosa of developmental and metaplastic origins. *Gastroenterology*, 75:655-660, 1978.

7. Dalton MD, McGuigan JE, Camp RC, Goyal RK: Gastrin content of columnar mucosa lining the lower (Barrett's) esophagus. *Am J Dig Dis*, 22:970-2, 1977.

8. Brand DL, Pope CE: Barrett's epithelium regresses after successful anti-reflux surgery (Abstract). *Gastroenterology*, 72:1033, 1977.

9. Brand DL, Ylvisakes JT, Gelfand M, Pope CE II: Regression of columnar esophageal (Barrett's) epithelium after anti-reflux surgery. *NEJM*, 302:844-8, 1980.

10. Naef AP, Savary M, Ozzello L, Pearson FG: Columnar-lined lower esophagus: an acquired lesion with malignant predisposition. *J Thorac Cardiovasc Surg*, 70:826-35, 1975.

11. Haggitt RC, Tryzelaar J, Ellis FH, Colcher H: Adenocarcinoma complicating columnar epithelium-lined (Barrett's) esophagus. *Am J Clin Pathol*, 70:1-5, 1978.

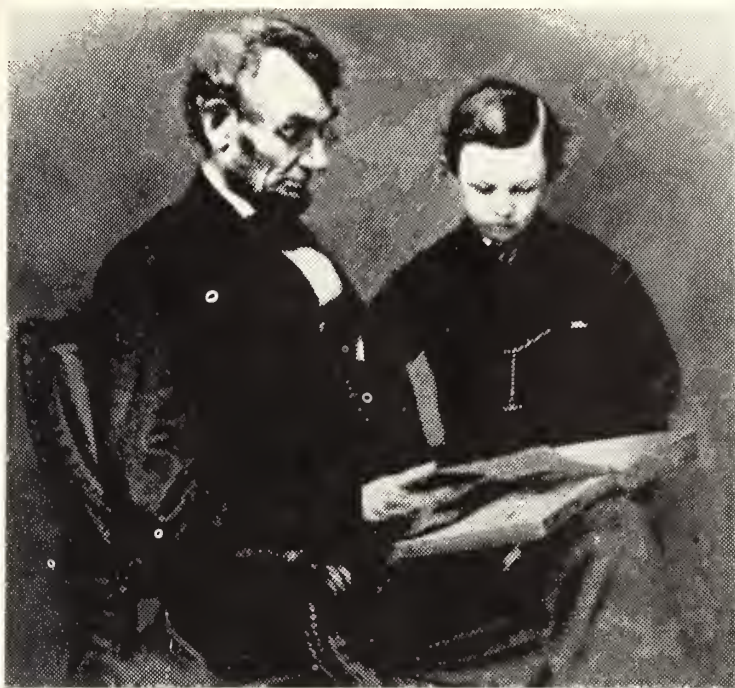
12. Robbins AH, Vincent ME, Saini M, Schimmel EM: Revised radiologic concepts of the Barrett esophagus. *Gastrointest Radiol*, 3:377-381, 1978.

13. Rosenberg JC, Budev H, Edwards RC, Singal S, Steiger Z, Sundareson AS: Analysis of adenocarcinoma in Barrett's esophagus utilizing a staging system. *Cancer*, 55:1353-60, 1985.

14. Morton JH, Rubin P, Bakemeier RF: Alimentary tract cancer. In: Rubin P, Bakemeier RF, eds. *Clinical Oncology for Medical Students and Physicians: a Multidisciplinary Approach*. Rochester: American Cancer Society, 85-89, 1978.

15. AMA Council on Scientific Affairs. Combined modality approaches to cancer therapy. *JAMA*, 251:2398-407, 1984.





If you recognize Tad's father, you'll recognize the name of one of the largest life insurance companies in America.

Lincoln. It's a name you'll remember.

**B**enefits available to members of the Indiana State Medical Association and their employees through expanded ISMA group sponsored Lincoln National Life health insurance coverage:

#### **MEDICAL PLAN 1**

- 365 Days of Inpatient Hospital Care
- 100% payment semi-private or hospital ward room including the cost of blood
- 365 Days In-Hospital Medical Care
- Reasonable and Customary allowances for surgery, maternity, general anesthesia, medical visits, and radiation therapy
- \$500 Supplemental Accident
- Unlimited Major Medical Benefits

#### **MEDICAL PLAN 2**

- Comprehensive Major Medical expense protection—\$500 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 3**

- Comprehensive Major Medical expense protection—\$250 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 4**

- Low cost comprehensive Major Medical expense protection—\$2,000 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **NEW DENTAL PLAN**

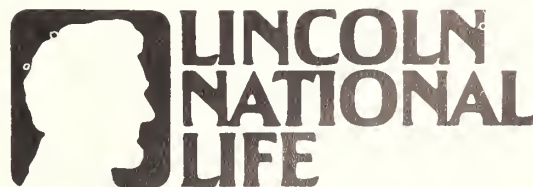
- Reasonable and Customary allowances for necessary care and treatment for dental health
- \$1,500 Maximum Dental Benefit per person in a Calendar Year

The Lincoln National Life Insurance Company is most pleased to be underwriting the Group Medical and Dental Programs for the Indiana State Medical Association. Your benefit programs have been designed to provide the highest quality coverage and service at the lowest possible cost. A special claim paying unit has been established in our Indianapolis Group Benefits and Service Office to handle only the ISMA program. Should you have questions or problems, you may speak directly to your claim processor at 317-846-6211/800-692-6014. We look forward to serving your association and encourage your review of the programs and services being provided.

**F**or more information call or write:

James D. Townsend or Earl W. Williams  
Professional Account Representatives  
8900 Keystone Crossing, Suite 500  
Indianapolis, Indiana 46240  
(317) 846-7502 or (317) 844-3119  
1-800-428-7105 Toll Free Outside Indiana

Tom Martens  
Director, Health Insurance Administration  
Indiana State Medical Association  
3935 North Meridian Street  
Indianapolis, Indiana 46208  
(317) 926-4424  
1-800-382-1721



*The Lincoln National Life Insurance Company  
Fort Wayne, Indiana  
A member of Lincoln National Corporation*

# Granular Cell Myoblastoma of the Esophagus

STEPHEN S. TSUNG<sup>1</sup>

PETER G. MAVRELIS, M.D.<sup>2</sup>

JEFFREY S. H. TSUNG, M.D.<sup>3</sup>

**A**RIKOSOFF published the first five cases of granular cell myoblastoma in the tongue in 1926.<sup>1</sup> Since then, more than a thousand cases have been reported with no site spared. The vast majority have been found in the tongue, skin and breast—seldom found in the esophagus. To date, only 44 cases of granular cell myoblastoma in the esophagus have been reported in the literature.<sup>2</sup> Herein, we describe such a case.

## Case Report

A 32-year-old black man was admitted to the hospital on March 10, 1983 with acute gastrointestinal bleeding. Gastroscopy showed a 1 cm duodenal bulb ulcer. An incidental finding at gastroscopy was a sessile tumor at 25 cm in the esophagus (*Fig. 1*). Biopsies of this tumor were taken and unsuccessful attempts were made to remove it through the gastroscopy. Microscopically, the tumor cells were similar to a conglomerate of polygonal cells with acidophilic granular cytoplasm, characteristics of granular cell tumors (*Fig. 2*). Electron microscopic examination of the tumor showed abundant cytoplasmic granules that varied in size and shape, some of which were membrane-bound. The patient was asymptomatic after a two-year follow-up.

<sup>1</sup>Dept. of Pathology, Broadway Methodist Hospital, Merrillville, Ind.

<sup>2</sup>Dept. of Medicine, Broadway Methodist Hospital, Merrillville, Ind.

Correspondence: Jeffrey S. H. Tsung, M.D., Dept. of Pathology, Broadway Methodist Hospital, 8701 Broadway, Merrillville, Ind. 46410.

## Discussion

Granular cell myoblastoma of the esophagus is rare. This neoplasm affects women more often than men and usually occurs in mid-life. Of the 30 cases reviewed by Patel, *et al*<sup>3</sup> the age group was between 19 and 65 years, with an average of 40 years. Of these cases, 70% were women. This tumor may be multiple and often occurs in the lower and upper third of the esophagus, with dysphagia as the most common form of presentation.

Substernal discomfort or pain was present in a majority of the patients. There is no definite relationship between symptoms and size of the tumor.

The possibility of malignancy was raised in two cases in literature.<sup>4</sup> The patient reported by Obitidish-Mayer and associates<sup>5</sup> had metastasis to the cervical lymph node, probably representing a true malignant form of this generally benign tumor. The aggressiveness, however, could not be evaluated due to the patient's death shortly after tracheostomy. The tumor so extensively affected the trachea that the author could not be certain that the primary site was in the esophagus. Crawford and DeBailey<sup>4</sup> reported a case with periesophageal invasion and yet the patient survived 22 years despite incomplete resection.

A definitive preoperative diagnosis is difficult. The radiographic appearance is relatively non-specific, consisting of the characteristic intramural contour defect. The usual preoperative diagnosis is leiomyoma, since this constitutes approximately 54% of the benign tumors of the esophagus.<sup>6</sup> Esophagoscopy examination may aid in the diagnosis.

An endoscopically greyish-yellow intramural lesion covered by normal appearing mucosa is the usual finding. One should consider the diagnosis of

granular cell myoblastoma whenever one confronts a submucosal hard mass in any area of the gastrointestinal tract, especially the esophagus, stomach or colon.<sup>7,8</sup>

The esophageal granular cell myoblastoma is structurally identical to those developed in striated muscles, but the origin of this tumor remains debatable. Many authors now believe that granular cell tumors have a neural, rather than a myoblastic, origin, but this difference of opinion has not yet been completely settled. The World Health Organization has classified this tumor as a "tumor of unsettled origin."

Histologically, they consist of polygonal cells with scanty stroma. The cytoplasm is eosinophilic and contains multiple coarse granules that stain positively with PAS. The small, dense nuclei are located centrally or eccentrically. Overlying squamous epithelium often shows pseudoepitheliomatous hyperplasia and may lead the unwary to a diagnosis of squamous cell carcinoma.<sup>9</sup>

Treatment of this tumor is as controversial as its pathogenesis. Some feel that these tumors must be removed at thoracotomy, avoiding biopsy. Farinati, *et al*<sup>2</sup> advocate that this tumor be removed through endoscopic resection, and that surgical resection should only be resorted to in invasive or recurrent cases. In the case we have presented, the tumor was not removed. The patient was still asymptomatic after a two-year follow-up.

## REFERENCES

1. Arikosoff AL: Über myome ausgehend von der guergestreiften willkürlichen muskulatur Virchows. *Arch (Pathol Anat)*, 2260:215-233, 1926.
2. Farinati F, Sturriolo GC, Cecchetto A, *et al*: Granular cell myoblastoma of the esophagus: Endoscopic diagnosis and



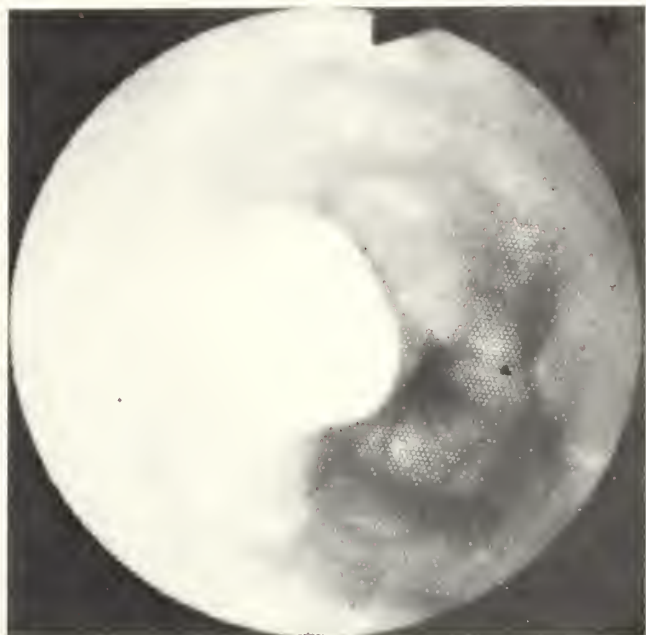


FIGURE 1

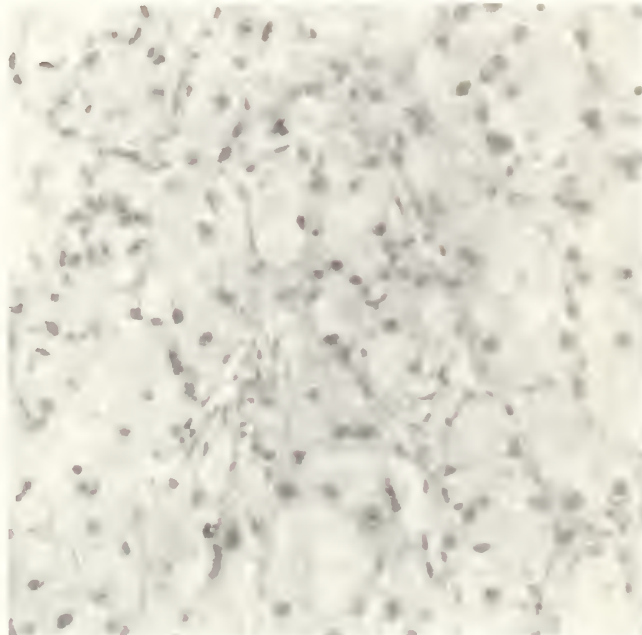


FIGURE 2

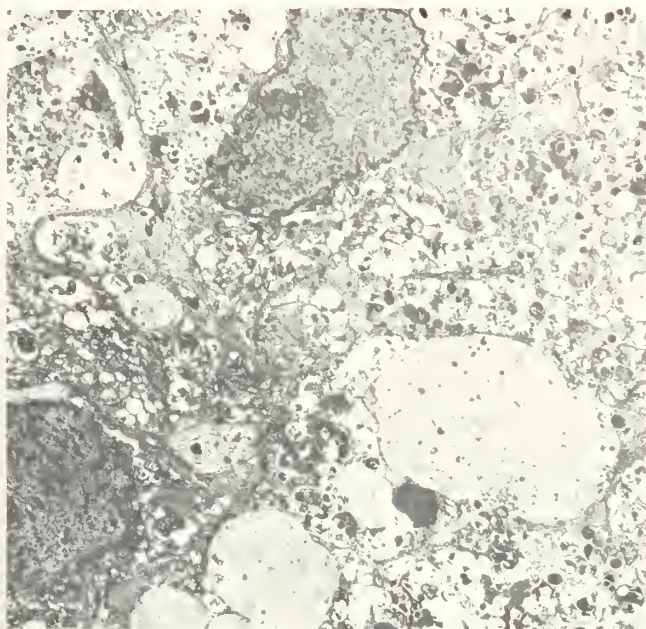


FIGURE 3

FIGURE 1: Endoscopic appearance of the polypoid lesion in the esophagus.

FIGURE 2: Histologic section of the tumor shows characteristic findings of closely packed polyhedral cells containing many eosinophilic granules in cytoplasm (Hematoxylin and Eosin stain x400).

FIGURE 3: Electron micrograph shows abundant cytoplasmic granules that vary in size and shape; some are membrane-bound (x13,200).

therapy. *Gastrointest Endosc*, 31:22-23, 1985.

3. Patel RM, DeSota-LaPaix F, Sika J, et al: Granular cell tumor of the esophagus. *Am J Gastroenterol*, 76:519-523, 1981.
4. Crawford ES, DeBakey ME: Granular cell myoblastoma: Two unusual cases. *Cancer*, 6:786-789, 1953.
5. Obiditisch-Mayer I, Salzer-Kuntschik

M: Malignes Gekornztelliges Neuron sogenanntes myoblastommyom des oesophagus. *Beiter Pathol Anat*, 125:357-373, 1961.

6. Chi P, Adams WE: Benign tumors of the esophagus. *Arch Surg*, 60:92-100, 1950.
7. Donahoe SJ, McSwain B: Granular cell myoblastoma of the cecum. *Am Surg*, 36:565, 1970.

8. Goodman ML, Gottlieb LB, Zamecheck N: Granular cell myoblastoma of the stomach and colon. *Am J Dig Dis*, 7:432, 1962.

9. Swerdlon MA, Lorenzo BR, Edwards AL: Pseudoepitheliomatous hyperplasia associated with myoblastoma: A diagnostic pitfall. *US Armed Forces Med J*, 5:831, 1954.



# Advances in Non-Pharmacologic Treatment of Hypertension: A New Approach to the Problem of Effective Dietary Sodium Restriction

## 3. Food Preparation

---

JUDY Z. MILLER, Ph.D.  
MYRON H. WEINBERGER, M.D.  
STUART J. COHEN, Ed.D.  
Indianapolis

---

**T**HIS SESSION keyed in on the need for providing variety to a low sodium diet. Recommendations as to how to effectively use herbs and spices as flavoring agents to replace salt were dispersed throughout each of the other sessions; however, the use of these was most emphasized during this session. Cooking suggestions such as what herbs best complemented certain foods, the amount of these herbs to use and when to add them in cooking were all provided. Ideas were given about how to alter favorite patient recipes and what spices to add while deleting the salt. Suggestions for snack ideas, recipe preferences and general cooking hints were accumulated from participants as the study progressed and acted as an encouragement for those who were just beginning the study.

### Feedback and Support

During the instruction, the dietitian had practice exercises such as having the patients role-play eating out in a restaurant while staying within their sodium budget. Such activities allowed the dietitian to correct any misconceptions the patients had, while reassuring them that they could still enjoy a social event such as eating out while complying with their diet.

Another important source of potential support of patients was the feedback of the sodium content from the 24-hour urines they collected once or twice after each lesson. When the values were at or below the target goal, both the patients and the dietitians were encouraged by their suc-

cess. Even when the urinary sodium level was higher than desired, the information was used by the dietitian to determine potential sources of misunderstanding or problems the patient encountered.

Specific problems were reviewed in subsequent lessons or during phone conversations. The coming availability of salt-sensitive urine sticks (Saltex, Ames Laboratories) may provide a less expensive and easier feedback system for patients to monitor their own adherence with dietary sodium restriction.

### Results and Discussion

The initial studies employing this dietary instruction were performed using healthy, normotensive individuals from families of identical twin children.<sup>37,38</sup> In these studies there was a significant decrease in sodium excretion in both men ( $179.5 \pm 13.9$  vs.  $80.8 \pm 5.3$ ,  $P < .001$ ) and women ( $130.3 \pm 7.2$  vs.  $61.7 \pm 4.4$ ,  $P < .001$ ), without a significant change in potassium excretion. Volunteers received feedback as to the sodium content from 24-hour urine collection approximately every two weeks. Blood pressure was obtained on the days of urine collection and adults of both sexes showed a small but statistically significant decrease ( $P < .05$ ).

Preliminary results of the ongoing study in hypertensive patients indicate that, as a group, subjects who successfully lowered their sodium intake experienced a significant fall in blood pressure, even though the physicians

---

From the Hypertension Research Center  
Dept. of Medicine, Indiana University  
School of Medicine, Indianapolis, Ind. 46223.

These studies were supported, in part, by grants from the USPHS, HL 27398 and HL 30561.

managing their hypertension significantly decreased the numbers and/or amount of prescribed medications.<sup>39</sup> Data from the first 32 patients who completed the instruction showed a significant decrease in sodium ( $171 \pm 11$  mEq vs  $80 \pm 7$  mEq,  $P < .001$ ) and significant declines in both systolic ( $136 \pm 3$  mmHg vs  $122 \pm 5$  mmHg,  $P < .01$ ) and diastolic ( $84 \pm 2$  vs  $78 \pm 3$ ,  $p < .06$ ) blood pressures. These studies are unique in demonstrating the ability of modest sodium restriction to decrease blood pressure in both normotensive and hypertensive adults.

The collective experience in these studies indicates that education for dietary sodium reduction can be effective if it incorporates the following elements: 1) individualized dietary counseling tailored to individual lifestyles, 2) an instructional emphasis on the knowledge and skills involved in food purchasing, food preparation and food selection when eating away

from home, 3) the use of demonstration, practice and feedback during instruction, and 4) the distribution of instruction over time with feedback about the urinary sodium results interspersed between lessons.

Such instruction consumes more time than is available to most physicians. Consequently, for physicians desiring to have their patients reduce their sodium intake, they may need to identify a dietitian in their community who has the time, knowledge and skill required to educate their patients to achieve and maintain compliance with a sodium restricted diet.

#### Conclusion

Our studies have demonstrated the ability of healthy, normal families, encompassing a broad spectrum of age, activity and food preferences, to reduce their dietary sodium intake significantly for several months. Our ongoing studies document the ease and

practicality of achieving modest sodium restriction in hypertensive subjects and the subsequent benefits to be derived in lowering blood pressure and reducing the need for medication. These findings have great potential significance in extending dietary sodium restriction and counseling to a much larger population of individuals who need to accomplish these goals for personal health reasons.

#### REFERENCES

37. Miller JZ, Daugherty SA, Weinberger MH, Grim CE, Christian J, Lang C: Blood pressure response to dietary sodium restriction in normotensive adults. *Hypertension*, 5:790-795, 1983.
38. Lang CL, Weinberger MH, Miller JZ: Dietary counseling results in effective dietary sodium restriction. *J Am Diet Assoc*, 85:477-479, 1985.
39. Miller JZ, Cohen SJ, Fineberg NS, Weinberger MH: Modest dietary sodium restriction reduces anti-hypertensive medication. *Clin Res*, 33:365A, 1985.

## Look-Alike and Sound-Alike Drug Names

BENJAMIN TEPLITSKY, R. PH.  
Brooklyn, N.Y.

Look-alike and sound-alike drug names can be misinterpreted by a nurse reading doctors' orders or by a pharmacist compounding physicians' prescriptions. Such misunderstandings can result in the administration of a drug not intended by the prescriber. Awareness of such look-alike and sound-alike drug names can reduce potential errors.

Category:  
Brand Name:  
Generic Name:  
Dosage Forms:

CYCLOPAR  
Antibiotic  
Cyclopar, Parke-Davis  
Tetracycline HCl  
Capsules

CYTOSAR  
Antimetabolite  
Cytosar-U, Upjohn  
Cytarabine  
Powder for Injection

Category:  
Brand Name:  
Generic Name:  
Dosage Forms:

HALOTESTIN  
Androgen  
Halotestin, Upjohn  
Fluoxymesterone  
Tablets

HALOTHANE  
General anesthetic  
Halothane, Abbott  
Fluothane, Ayerst  
Halothane  
Inhalation anesthetic

# Cardiac Tamponade from Chronic Pericardial Effusion in Hypothyroidism

---

BERNARD F. KING, M.D.  
DONALD L. KREIPKE, M.D.  
ROBERT W. HOLDEN, M.D.  
VALERIE P. JACKSON, M.D.  
ROBERT D. TARVER, M.D.

---

IT IS KNOWN that effusions (i.e. pericardial, pleural, peritoneal) occur in severe hypothyroidism. Specifically, pericardial effusion occurs in approximately 30% of cases,<sup>1,2</sup> but it is seldom the dominant feature. We present a patient in whom a hemodynamically significant pericardial effusion was the most prominent finding.

## Case Report

A 76-year-old woman presented to the emergency room after a syncopal episode. Although unresponsive in her apartment, the patient was conscious but disoriented upon arrival at the ER. Initial blood pressure was 86/0; heart rate was 64; body temperature was 96.6 F. Vital signs quickly and spontaneously stabilized to BP 150/75 and HR 64. The patient gave a history of intermittent lightheadedness for several months. A neighbor related that the patient had experienced several syncopal episodes in the recent past. The patient denied any history

of chest pain, shortness of breath, weight changes, paresthesias, or change in bowel habits.

Past medical records revealed a history of high blood pressure, adult onset diabetes mellitus controlled by diet, carcinoma of uterine cervix treated with radiation, and chronic atrial fibrillation. An emergency room evaluation for syncope two years previously resulted in a discharge diagnosis of vasovagal syncope.

Admission physical exam revealed jugular venous distention of 2 cm at 30 degrees. The thyroid was unremarkable. Examination of the heart found an irregular rhythm and a Grade I-II systolic ejection murmur. There was 2+ pitting edema in the lower extremities. The skin was dry.

Hemoglobin was 9.6 g/dl. Electrocardiogram interpretation was atrial fibrillation with left bundle branch block. The admitting impression was syncope secondary to sick sinus syndrome versus transient ischemic attacks.

Formal interpretation of the chest radiograph reported marked globular enlargement of the cardiac silhouette, suggestive of a massive pericardial effusion (*Figure 1*). Chest films dating back seven years showed gradual development of the large pericardial effusion (*Figure 2*). Echocardiogram confirmed the diagnosis of pericardial effusion and demonstrated right ventricular collapse during systole, indicative of early cardiac tamponade.

Because of the gradual development of the pericardial effusion and the clinical history, the diagnosis of hypothyroidism was suggested. Thyroid function studies were T-4 of 1.2 ug/dl (4.5-11.5), free T-4 index of less

than 1 (4.5-11.5), TSH greater than 60 uIU (less than 6.2), and T3 resin uptake ratio of .8 (.86-1.14). Forty-eight hours after admission, the patient was given 200 ug of Levo Thyroxine intravenously and then 0.025 mg p.o. daily. After seven days the patient improved and had no demonstrable tamponade on repeat echocardiogram; she was discharged, to be followed as an outpatient. On a follow-up chest radiograph obtained six months after discharge, the heart had returned to normal size (*Figure 3*).

## Discussion

Effusions occur commonly in severe hypothyroidism. Most frequently they occur in the pleural, pericardial and peritoneal cavities; however, they also can occur in the middle ear, joints, and even the uvea. The mechanism is thought to be increased capillary permeability and extravasation of mucopolysaccharides.<sup>3</sup>

Accumulation of pericardial fluid in hypothyroidism is slow, as the disease has a gradual onset. The pericardium has ample time to stretch, and tamponade is therefore rare. However, these effusions can be quite large; up to 4,000 ml of fluid has been documented in some patients.<sup>4</sup> Chronic effusions of over 1,000 ml can result in tamponade.<sup>5</sup> In these very large fluid collections, the elastic limit of the pericardium can be exceeded, and cardiac chambers are compressed so that filling is inadequate. Venous inflow and cardiac output are compromised, resulting in jugular distension, peripheral edema, and various states of consciousness, all of which were found in our patient.

Pericardial effusion is suggested on

---

From the Dept. of Radiology, Indiana University Medical Center and Regenstrief Institute, Indianapolis.

Correspondence: Donald L. Kreipke, M.D., Dept. of Radiology, Wishard Memorial Hospital, 1001 W. 10th St., Indianapolis, Ind. 46202.





**FIGURE 1:** Presenting chest radiograph. Heart is enlarged with configuration suggesting pericardial effusion, confirmed by echocardiography.



**FIGURE 2A:** 1977 radiograph shows pericardial effusion.



**FIGURE 2B:** 1981 radiograph shows enlarging pericardial effusion.



**FIGURE 3:** Heart size has returned to normal following thyroid replacement therapy.

chest radiographs when the cardiac silhouette is enlarged and globular in shape. Disproportionate enlargement of the cardiac silhouette inferiorly in the transverse diameter relative to the height suggests this entity. Pulmonary vascularity is usually normal.

These findings were present in the patient's radiographs in 1981, two years before the diagnosis of pericardial effusion was formally suggested. The effusion had probably been present for longer than that. Hypothyroidism is often oligosymptomatic, and

chronic pericardial effusion may be one of few findings to suggest this disease, as in our patient. Although tuberculosis is considered the most common cause of chronic pericardial effusion,<sup>5</sup> hypothyroidism should be ruled out when review of serial chest radiographs reveals the presence of a chronic pericardial effusion.

#### REFERENCES

1. Kerber RE, Sherman B: Echocardiographic evaluation of pericardial effusion in myxedema. *Circulation*, 52:823, 1975.
2. Hardisty CA, Naik DR, Munro DS: Pericardial effusion in hypothyroidism. *Clinical Endocrinology*, 13:349-354, 1980.
3. Sachdev Y, Hall R: Effusions into body cavities in hypothyroidism. *Lancet* 1 (March 8), 564-566, 1975.
4. DeGroot WJ: Cardiomyopathy associated with endocrine disorders. *Cardiovascular Clinics*, 4:305-331, 1972.
5. Braunwald E: Pericardial disease. In Petersdorf R, Adams R, Braunwald E, Isselbacher K, Martin J, Wilson J, eds. *Harrison's Principles of Internal Medicine* 10th ed. New York: McGraw-Hill, 1458-1465, 1983.

## ARMY PHYSICIANS PRACTICE MEDICINE, NOT LAW.

The Army Medical Department believes in excellence in the practice of medicine. That means allowing our physicians to work at perfecting their medical skills, and not being burdened with endless insurance forms, malpractice premiums, cash flow worries. And they need not concern themselves with the ability of the patient to pay.

Part of Army medical excellence is prescribing the best possible care—not the least care, nor most defensive care. If you believe in this kind of comprehensive health care, you may wish to explore the many exciting possibilities Army Medicine has for you. We invite your call:

(313) 668-2190 (collect)


**ARMY MEDICINE.  
BE ALL YOU CAN BE.**

**BROWN** THE BROWN PHARMACEUTICAL CO., INC.

2500 West Sixth Street, Los Angeles, CA 90057



For Full Prescribing Information, Please See PDR.

 **Android**<sup>®</sup> / 5<sup>Buccal</sup> / 10<sup>Oral</sup> / 25<sup>Oral</sup>  
mg. mg. mg.

Methyltestosterone U.S.P. Tablets

 **ANDROID**<sup>®</sup> / F

Fluoxymesterone U.S.P. Tablets, 10<sub>mg</sub>





# Testicular Self-examination

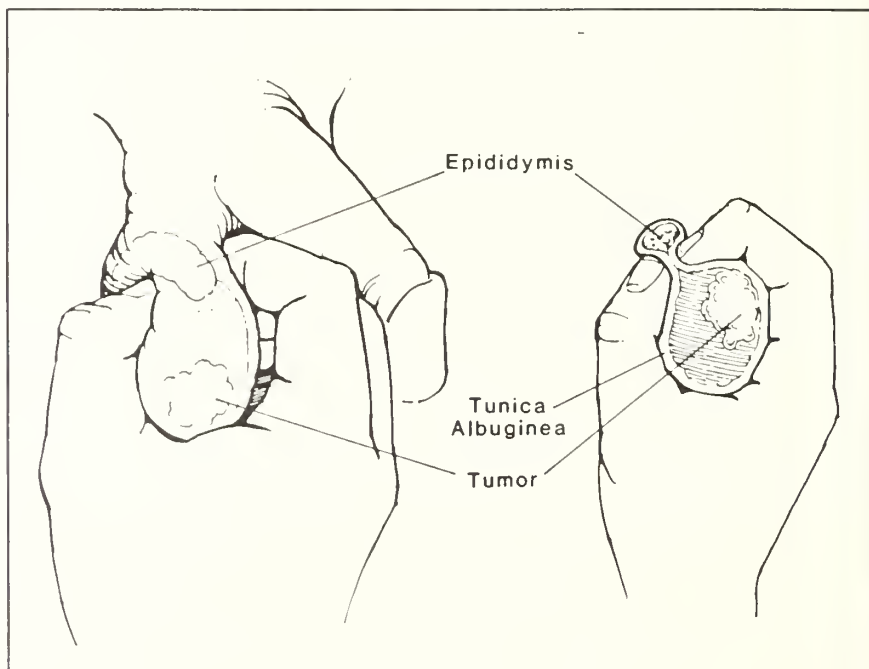
FRANK B. RAMSEY, M.D.  
Editor

**T**HE ABSOLUTE NUMBER of cases of testicular cancer in the U.S. is on the increase. However, the United Cancer Council of Indianapolis reports that this is due to the fact that cancer of the testes occurs most commonly in men between 20 and 40 years of age. This is the age bracket which is high now due to the "baby boom." The actual rate per 100,000 men has not increased.

The Council emphasizes that the cure rate is higher now than ever before, all stages combined up to 85% as compared with a rate of 40% 20 years ago. Actually, Stage I and Stage II disease has enjoyed a cure rate of 99% and 97% over the past decade at I.U. Medical Center. Even Stage III disease can be cured 70% of the time with chemotherapy alone. An additional 15% can be cured with post-chemotherapy and surgery.

Education of the public will improve the cure rate even further. Testicular cancer is one of the most curable forms of cancer. One of the hindrances to early treatment is the patient's fear of impotence. However, only one testis is usually affected and its removal does not alter sexual function. Also, retroperitoneal surgery for low stage disease (I, IIa) can be modified so as to preserve normal ejaculatory function in these young men.

Acknowledgment: John P. Donahue, M.D., for editorial assistance. Illustration provided by the Dept. of Urology, Indiana University School of Medicine. Art work by Craig Gosling, Dept. of Illustration.



## TESTICULAR SELF-EXAMINATION CHART

1. Perform monthly while bathing or showering. Lather hands with soap to increase the fingers' sensitivity.
2. Hold the scrotum in the palm of the hands and compare each half of the sac for equal heaviness.
3. Examine the side of the scrotal sac individually. Place index and middle fingers on the underside of the testis and the thumb on top. Palpate the ovoid-shaped testis for lumps. Locate the epididymis and palpate. It is a comma-shaped structure on top of and extending down behind the testicle. It is usually soft and slightly tender. Position the thumb and fingers into the deep groove between the anterior oval testis and the posterior epididymis. The testis is firmer than the epididymis.
4. Identify the spermatic cord or vas deferens that ascends from the epididymis. It is a smooth, firm, movable, tubular structure.
5. During TSE, apply gentle pressure. If there is pain, too much pressure is being applied.
6. Examination of the testis should be done with a slow, gentle, rolling action. Check for any small lump, slight enlargement, or change in consistency.
7. Repeat the same procedure for the opposite testicle.
8. Report any changes found to a physician for immediate evaluation.

The earlier the diagnosis, the better the result. All young men should be encouraged to examine themselves frequently. Unilateral enlargement of a testis is easily identified even though the growth is small (see *Figure*).

Everyone with a newborn male child should understand the importance of diagnosing and treating undescended testes as early as possible. Undescended testes are more apt to develop malignancy than those which descend normally.

Testes which have been surgically

placed in the scrotum are still more susceptible to malignant degeneration but are in a location in which early diagnosis is possible. An undescended testis, if it becomes malignant, may remain undiagnosed until it is in an advanced stage.

The United Cancer Council recommends that men should be familiar with the five symptoms of malignancy. They are: (1) a small hard painless lump in a testis; (2) a heavy feeling in the scrotum; (3) accumulation of fluid or blood in the scrotum; (4) swelling or

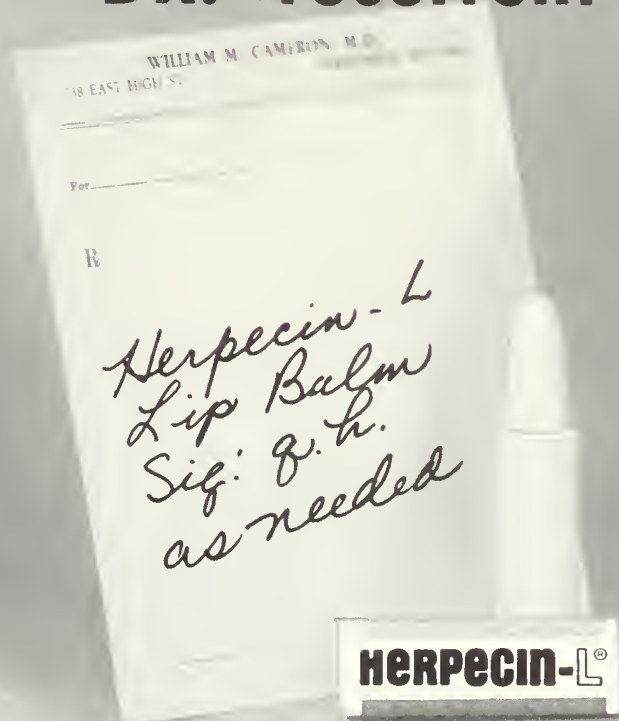
tenderness of the breast; and (5) pain or discomfort in the groin.

It is stressed that these symptoms may not be due to testicular cancer but they should be brought to the attention of a physician promptly.

The Council believes that public education is vital. The start in education should begin with educating parents about the importance of normally descended testes bilaterally.

Physicians desiring more information may write to the Council at P.O. Box 40307, Indianapolis 46240.

## Dx: recurrent herpes labialis



"HERPECIN-L is my **treatment of choice** for perioral herpes." GP, NY

"HERPECIN-L appears to actually **prevent** the blisters . . . used **soon enough**." DDS, MN

"HERPECIN-L® . . . a **conservative approach** with **low risk/high benefits**." MD, FL

"Used at **prodromal symptoms** . . . blisters **never formed** . . . remarkable." DH, MA

"(In clinical trials) . . . **response was dramatic**. HERPECIN-L . . . **proven far superior**." DDS, PA

"All patients claimed **shorter duration** . . . at **prodromal symptoms** . . . HERPECIN-L **averted the attacks**." MD, AK

OTC. See P.D.R. for information. For samples to make your own clinical evaluation, write: CAMPBELL LABORATORIES, INC., P.O. BOX 812-MD, FDR STATION, NEW YORK, N.Y. 10150

In Indiana HERPECIN-L is available at all *Hook, Osco, Peoples, Revco, Ribordy, SuperRx Drug Stores* and other select pharmacies.

# Nutrition and Aging

## Researchers Share Findings on Nutrition's Role in Aging Process

---

### A SUMMARY OF CONCLUSIONS

---

**T**HIS YEAR MARKED the fifth renewal of the Bristol-Myers Symposium on Nutrition Research. "New Studies of Nutrition and Aging Focus on Helping Us Look Better and Stay Healthier Longer" is the title of the detailed report of the meeting. The report title is an eloquent summary of both the purpose and the accomplishments of the symposium.

Mead Johnson, a subsidiary of Bristol-Myers, was a co-sponsor. Tufts University School of Medicine organized the meeting through the USDA Human Nutrition Research Center on Aging at Tufts.

The symposium was the occasion of the announcements of unrestricted research grants of nearly \$2.5 million to major American and foreign research institutions.

The fifth annual Bristol-Myers Award for Distinguished Achievement in Nutrition Research was presented to Dr. Clement A. Finch of the University of Washington on December 4 in Washington. Dr. Finch has made significant contributions to the understanding of iron metabolism and anemia.

Condensed notes on most of the presentations are as follows:

- "The perception that skin naturally gets dry and wrinkled as we get older is not accurate." Dr. Barbara

Gilchrist of Boston University said: "We know that the sun damages cell membranes and DNA and that diet can exert both positive or negative effects on the skin." Protein deficiency and deficiency of Vitamin C and thiamine are culprits.

- "The reduced secretion of stomach acid that occurs with aging can affect absorption of many important nutrients." Dr. Robert M. Russell, acting director of Tufts' Research Center on Aging, names protein, iron, zinc, calcium and Vitamins A, E, folic acid and B12 as some of the nutrients possibly affected. Gastric atrophy and ingestion of antacids enlarge the problem.

- "Because requirements for trace elements are usually determined in college students, requirements in the elderly are based on many unproven assumptions," says Dr. Walter Mertz. He recommends further study of trace elements in the elderly.

- Dr. David A. Lipschitz is quoted: "Aging is characterized by a decrease in the reserve capacity of all organ systems. The decreased reserve capacity of the blood-forming system leads to a reduced capacity to respond to stresses such as diseases and infections." He states that, while there is no evidence that remaining active in old age will improve bone-marrow function, we strongly suspect that this is true.

- "One half of the major chronic health problems of the elderly—heart disease, hypertension and diabetes—are affected by bad nutrition," according to Dr. Mary Bess Kohrs of the University of Illinois. Meal programs are part of the answer. She says:

"Many of the elderly get the vitamins and nutrients essential to their health from eating at meal programs. . . ."

- "Exercise can't reverse muscle loss caused by aging but it can help delay it." Dr. William J. Evans of Tufts states: "So far, we've discovered two striking things. One, sedentary older people, especially women, have remarkably low functional capacities, and two, that capacity increases substantially as a result of exercise."

- Dr. Robert A. Good reports: "In short-lived animals that develop some or all the diseases associated with aging relatively early in life, we have been able to extend their lifespan as much as fourfold simply by restricting their intake of calories by about 40 percent." In human terms this would be comparable to reducing the American diet from 2,500 calories a day to about 1,500 calories. Further: "It does not seem to matter whether the diet is high in protein, fat or carbohydrates—the lifespan of the calorie-restricted animals is greatly prolonged."

- "Women begin to lose bone mass at least by the age of 30." Dr. B. Lawrence Riggs of the Mayo Medical School recommends an active program to improve the intake and metabolism of calcium in adolescents. "Fast food high in protein and cola beverages high in phosphorus deplete calcium."

Bristol-Myers and Mead Johnson are to be commended for their dedication to and financial and research support of investigations into all aspects of nutrition. It is evident that everyone, both those in good health and those who are not, will live longer and feel better in the process, when their nutrition is as nearly perfect as possible.

---

The fifth annual Bristol-Myers Symposium on Nutrition Research was conducted Oct. 31 and Nov. 1, 1985, in Boston.



# Humana Heart Institute International

**Announcing:** Humana Heart Institute International announces its second international conference on the topic *Cardiac Replacement* to be held in Louisville, Kentucky on April 23, 1986.

**Topics:**

- An update on cardiac transplantation and artificial heart implantation
- Heart/lung transplantation
- Immunosuppression and infection/transplant
- Cardiology/evaluation of heart replacement
- Coagulation studies/implant

**Speakers:** Speakers will emphasize the state-of-the-art in their respective specialties.

Presentations will be given by:

- Denton A. Cooley, M.D.
- Jack G. Copeland, M.D.
- Anthony N. DeMaria, M.D.
- William C. DeVries, M.D.
- Terence A. H. English, M.D.
- Robert L. Hardesty, M.D.
- Jack Kolff, M.D.
- Jacques G. Losman, M.D.
- Bjarne K. H. Semb, M.D.

For further information write Ruth Lusk, Humana Heart Institute International, One Audubon Plaza Drive, Louisville, Kentucky 40217 or call 502-636-7135.

# The Living Will

## A Matter of Life and Death

---

LAWRENCE E. ALLEN, M.D.  
Anderson

---

**T**HE SUBJECT RAISED goes by many names—the right to die, death with dignity, the decision to forego life sustaining procedures, and passive euthanasia. Along with the terminology comes a complex set of legal, medical, ethical and religious issues.

It is not my intent to explore the legal, moral or ethical issues here, but rather to explore the medical wisdom of such decisions having to do with the withdrawal of life-sustaining treatment from any individual.

Our first question might be: "Why is a topic such as this one, once thought to be better left undiscussed, now so regularly addressed by the courts, state legislatures and the media?" The answer can be found in the world of modern medicine and technology. Historically, death was a private matter, taking place at home, usually only with the family present at the death bed. Today, perhaps 80% of all deaths occur in an institutional setting. Doctors, nurses and other medical personnel are directly involved with the dying individual and his family.

At the same time, the treatment of illness and injury has advanced rapidly. For those nearing death, life may

be extended long beyond the ability to see, hear, speak, think or perform any of the functions normally associated with living. Yet, for those in whom cognitive abilities remain, even through the most terminal phases of dying—that individual may be seen to suffer unbearably; especially in light of the eventual futile reality that they face death in a relatively short time. It is also noteworthy to realize that families indeed suffer along with the dying patient and shoulder the emotional burden that understandably occurs when one watches and waits for the inevitable in a loved one. Even if the devastating financial cost is *not* an immediate concern during the hour of tragedy and dying, it must be realized that one-third to one-half of all monies spent for medical care in a lifetime occurs in the last year of life—and most of this in the last 30 days.

Many times the patient and the family turn to the physician for assistance. A physician whose career has been built upon saving and preserving life often finds himself in a dilemma too complex to resolve. At times, the patient's doctor may be in complete accord with the request of the patient and the family that treatment be terminated and further efforts to sustain the painful agony of dying be suspended. Such a physician, prior to Living Will legislation, faced the reality of criminal and civil sanctions that were much too severe to ignore. In face of the physician's inability to act within the law in responding to the requests of patient and family, this question as to when the physician allows the patient to die becomes a legal one to be presented to our judicial

system in perhaps what truly was the court of last resort.

Until the last 10 years, little existed in a recognized legal direction that would offer precedent to patients, their families, and physicians caught up in this dilemma. In 1976, however, two events occurred—the family of a young New Jersey girl, the Quinlans, vigorously pursued an end to their medical limbo in the courts, and a state legislature (California) passed the first law allowing an individual to direct, in writing, that treatment and the use of artificial life-support equipment could stop upon the previously determined declaration of the patient in the form of a "Living Will."

The basis for both court and legislative action can be traced back to several common law doctrines, one of which is the recognition that the patient has the right of informed consent, and the right of self determination. With this comes the right of the patient to reject treatment, particularly when that treatment has to do with non-consequential bodily intrusion. It should also be recognized that there exists what is increasingly recognized or delineated by the U. S. Supreme Court in its decisions as a constitutional "right of privacy," and this right has been extended to include the right to request cessation of life-sustaining treatment in such a way that the "right of privacy" is many times being interpreted as the "right to die."

A legislative movement that began with the enactment of the California Natural Death Act of 1976, grew out of the uncertain legal status of the Living Will. Over a number of years various professional and educational

---

Dr. Allen is the immediate past president of the Indiana State Medical Association.

organizations have promulgated documents for those individuals concerned about the loss of ability to direct their own care and wishing to state their treatment preferences in writing.

California took the first step to validate the Living Will by statute. While a few other states followed suit in the next year, the big surge truly began in 1984. In the last two years, 20 states have enacted legislation, bringing the total number of state laws permitting advanced medical directives to approximately 35 states, plus the District of Columbia.

While no two states are identical, many provisions are common to all or most of the advanced medical directive legislation. Some of the basic provisions, I would describe as follows:

- Each of the laws establish that a legal document is being executed: The Declarant states that he or she is of sound mind and that the declaration is made willfully and voluntarily. A statement regarding the expressed desire to avoid the artificial prolongation of the dying process is included, and the document contains instructions to withhold or withdraw life-sustaining treatment in the event of a terminal diagnosis.

- The procedure requirements for the execution of a Statutory Living Will are much the same as those for a testamentary document: It must be signed, dated and witnessed. At least two adult witnesses are required, and these witnesses may not be anyone who has an interest in the Declarant's estate, who might have a claim against the estate or who might be able to exert undue influence on the Declarant.

- The definition portion of legislation sets the boundaries for the document's use—for instance, a term such as "life-sustaining procedure" is often defined as an artificial process of prolonging dying. "Terminal illness" is typically defined within a time frame such as intimate, and the definition usually includes words such as "incurable," "irreversible," or "with no hope of recovery." A "qualified pa-

tient" is one who has executed an advanced directive and whose condition meets the legislative criteria for implementation of the directive, such as a certification of the terminal condition by attending physicians.

- Revocation procedures are provided for in all the legislation, either by stating that the declaration is in effect unless or until it is revoked, or by setting a time limit on its effectiveness, thus requiring re-execution. Revocation procedures are usually spelled out; by executing another writing, by verbal expression, or by physical destruction. The Uniform Act Draft provides for revocation "at any time and in any manner."

- To insure the Declarant's freedom of choice is maintained at all times, all laws make it clear that any current wishes will supersede anything expressed in the advance medical directive.

- The majority of the statutes provide for the instance of a physician who, on moral or ethical grounds, refuses to implement the declaration. Transfer to a physician who will carry out the Declarant's wishes is called for, but few of the laws impose a penalty on the physician who refuses to comply. However, many laws do impose a penalty on any person who forges, destroys, or conceals a declaration.

- In all the statutes, physicians are provided with immunity from civil and criminal liability when they comply with an advanced directive.

There are several other common elements to many advanced medical directive laws. Some include a "pregnancy" clause, invalidating the declaration during a period of pregnancy. Reference is also made to the fact that the language in the directive should not be construed to condone or permit mercy killing, and that the implementation of the directive should not constitute suicide or the aiding of suicide. Health care benefits and life insurance policies are considered to be unaffected or modified by the directive.

A recent legislative trend is the Proxy Directive, which differs from the Advanced Medical Directive. Instead of providing instructions for treatment decisions, it designates an agent to make the necessary medical decisions that the individual would have made had he or she been competent to do so.

The Living Will and Life Prolonging Procedures Act recently passed by the Indiana General Assembly and enacted Sept. 1, 1985, contains many of these provisions.

The question now posed to many doctors is one of medical ethics and modification of traditional medical care patterns, realizing that the Living Will and Life Prolonging Procedures Act does provide the type of immunity that allows the physician to act as an *agent of the patient*, which heretofore would have placed him in civil or criminal jeopardy. To most physicians, the question is still one and the same: "How do I behave as a responsible doctor in discharging my duty to the patient?" For some doctors the answer may remain one and the same: "I will continue to do all in my power to sustain life and promote comfort until the irrefutable act of death occurs."

In light of what we know now about modern medical technology, the cost of providing terminal care as well as the intense exploration of what society has come to recognize as the quality of life, the above explanation of the physician's responsibility toward the dying patient is much too simplistic. Even the duty of supplying nutrition to a vegetating patient has become an ethical and legal question when that nutrition is provided through artificial feeding.

Consider the case of Clara Conroy, an 84-year old nursing home patient. Clara Conroy entered a New Jersey nursing home in 1979. Several years before her admittance, her nephew, Thomas Whittemore, had been appointed her legal guardian. Besides Whittemore, Conroy had no other living relatives. Although she enjoyed occasional lucid moments when she first



entered the nursing home, her condition deteriorated over the next few years. By the summer of 1983 she was unable to move from a semi-fetal position, had limited intellectual capacity, and was diagnosed to be in a state of progressive senile dementia, suffering from organic brain syndrome. In addition, she suffered from arteriosclerotic heart disease, hypertension, diabetes mellitus, a gangrenous left leg, bed sores, eye problems requiring irrigation, and an inability to speak, control her bowels and swallow.

In the early summer of 1983, Conroy's legal guardian, Whitemore, petitioned a New Jersey trial court to allow the nursing home to remove his aunt's feeding devices and the trial court agreed with the suggested action. However, the case required a hearing in the New Jersey Appellate Court and, before the case could be argued further, Conroy died with her nasogastric tube still in place. The argument eventually reached the level of the New Jersey Supreme Court, which re-affirmed the right of patients to refuse any treatment, whether they are competent or not. The New Jersey Supreme Court further expressed the opinion that feeding has an emotional significance, and even as we enter the realm of complex high technology in medical care, it is hard to shed the emotional symbolism of food. However, artificial feedings, such as nasogastric tubes, gastrostomies, and intravenous infusions are slightly different from bottle feeding or spoon feeding. They are medical procedures with inherent risk and possible side effects, instituted by skilled health care providers to compensate for impaired physical functioning. The New Jersey court further stipulated that artificial feeding by means of a nasogastric tube or intravenous infusion can be seen as equivalent to artificial feeding by means of a respirator—both prolong life through mechanical means when the body is no longer able to perform a vital bodily function.

Further example of the national at-

titude toward acceptance of the patient's right to die is seen in the recent policy of the Veterans Administration, representing some 172 hospitals nationwide. The VA has stipulated that doctors will be allowed to write orders to withdraw life-prolonging treatment efforts in certain critically ill patients, such as specific orders to forego resuscitative measures in these patients. Despite such fairly straightforward policy decisions that constitute guidelines in responding to the requests of patients and their families or legal guardians, the question of withdrawing life support measures remains an unsettling one, particularly in light of the fast-moving technological advances in medicine today, which could foreseeably offer a potential salvage of the patient through newly developed technology or pharmacology.

There are certainly learned opinions among the legislative leaders of this state who raise reservations as to our Living Will concept, inferring that it borders on euthanasia. One such individual is State Senator James R. Butcher. Senator Butcher has suggested that we examine the precepts of euthanasia in order to best understand problems inherent in the Living Will concept.

There are three primary objections to the practice of euthanasia: First, the sanctity of life as a basic value battles against the very notion of "mercy killing." Second, euthanasia is an irreversible act with a volatile mix of interests, which is especially susceptible to the ravages of abuse or mistake. Third, the wedge argument ("the slippery slope argument") says that the more innocuous forms of euthanasia may constitute the "thin edge of the wedge" or the "brink of a slippery slope," which will result in increased and irreversible moral decline.

It is not my purpose to further press the arguments that surround the concepts of the Living Will and euthanasia, nor to further belabor you with the current state of medical technology, but rather to call upon your understanding

as we attempt to move into an era of decision-making related to the newly espoused concepts of the patient's right to die. One must begin with the understanding that society is yet feeling its way along in the dark on this subject, hoping to find a doorway or window that will shed the light of reason upon this most soul-searching of social, ethical, medical and legal challenges. As we examine the progress made in the advancement of society's attitude toward the patient's right to die, we must also recognize that we are still in somewhat of a debate as to how we truly define the concept of *death* itself. It must be realized that the courts generally treat this judicial question by deferring it to the judgment of the attending physician, and where it is defined in the law, death is usually related to "brain death." Nonetheless, we must appreciate that scientific liability and legal liability are seldom the same.

I full well expect that the debate on the Living Will controversy will continue far into the future. Nonetheless, our current responsibility is to recognize the status of our Indiana law and make the most responsible effort to abide by the precepts of this law. As an individual physician, I would hope the Living Will should not be binding on the physician. Instead, a Living Will should be presumptive evidence of the patient's intent. A physician should be able to use the Living Will, along with his own evaluation of the patient's condition, and his discussions with the patient and the patient's family as areas of consideration to decide what treatment is appropriate for *each* individual patient. I would further suggest that we address further legislative change affecting the status of the patient's right to die, with all due caution and reverence for the magnitude of ethical and legal jurisdiction that surrounds this issue.

#### REFERENCES

1. *American Medical News*, February 1, 1985.
2. *Estate Planning Studies*, October 1985.

# Physician Dispensing

## A Tradition Is Now under Attack by Pharmacists

---

EDWARD L. LANGSTON, M.D., RPh  
Flora

---

**'Patients are entitled to the same freedom of choice in selecting who will fill their prescription needs as they are in the choice of a physician . . .'**

THE PRACTICE OF dispensing medications by the physician from the office is a function that spans decades. Many years ago, it was imperative that the physician dispense medications because pharmacies were not readily available. In addition, the patient looked to the physician as a provider of not only medical services but of medications as well. Tradition and enabling legislation have allowed this function to endure as part of continuing medical care and services. This service, however, has come under recent attack by the Indiana Pharmacists Association.

Indiana law defines the practice of medicine as "holding oneself out to the public as being engaged in the *diagnosis, treatment, correction or prevention of any disease, ailment, defect, injury, infirmity, deformity, pain or other condition of human beings, or the suggestion, recommendation or prescription or administration of any form of treatment, without limitation . . .*" (emphasis added).

The Judicial Council of the American Medical Association, in its 1984 Opinions, recognized the importance of patient choice in the dispensing of medications: "Patients are entitled to the same freedom of choice in selecting who will fill their prescription needs as they are in the choice of a physician."<sup>2</sup> Therefore, the practice of physician dispensing is recognized as a service to the patient as the patient can express that freedom of choice.

There has been concern expressed by pharmacists in Indiana that the practice of physician dispensing is encroaching on the right of the pharmacist to be the sole dispenser of

medications. During the past session of the Indiana General Assembly, legislation was supported by the Indiana Pharmacists Association (IIB 1438) that would have prohibited physicians from selling legend drugs to patients in the course of their practice unless in an emergency. While the ISMA was successful in defeating this legislation, it will likely be introduced again in the 1986 legislative session in some form.

The American Pharmaceutical Association's House of Delegates recently approved a resolution that would require those physicians who dispense significant quantities of drugs to have a pharmacy license.<sup>3</sup>

Recent statements by the Indiana Pharmacists Association (IPA) have created an unnecessary amount of disharmony in the current physician/patient/pharmacist relationship: "The IPA has taken a position that dispensing of medicines in physician's offices by non-pharmacists is detrimental to the public health and safety and welfare . . . The general public should also be shown how physician dispensing is not in their best interest and in fact places a threat to public health. IPA is collecting documented cases of physician dispensing that has adversely affected the public interest. . . ."<sup>4</sup>

While recognizing the legality of the practice of physician dispensing, there is legitimate concern that certain components of that process—the labeling of the dispensing container and record-keeping—are the most neglected processes of that practice. Common sense and accountability will help to ensure quality control and patient safety. It is suggested that all medications

---

Dr. Langston is chairman of the ISMA Commission on Legislation.

Acknowledgment: Julianna M. Newland of the ISMA Legislative Department for editorial assistance.

dispensed from the physician's office be recorded and properly labeled with the name of the medication, directions for use, and the name and address of the physician. The manufacturer (or distributor) and the lot number of the medication dispensed might be coded in a separate book and then the code numbers could be transferred to the individual dispensing packet, bottle, or envelope. This procedure would allow confirmation of the manufacturer and the medication should there be an overdose or an adverse reaction.

Proper dispensing practices and record-keeping by the physician will ensure quality health care for the patient. Where the patient chooses to obtain a prescribed medication should not be a concern when appropriate measures assure quality of care and accountability of the medication dispensed.

Hopefully, the practice of office dispensing will not become an inflaming issue between the two professions. Concern for quality services is warranted by both medicine and phar-

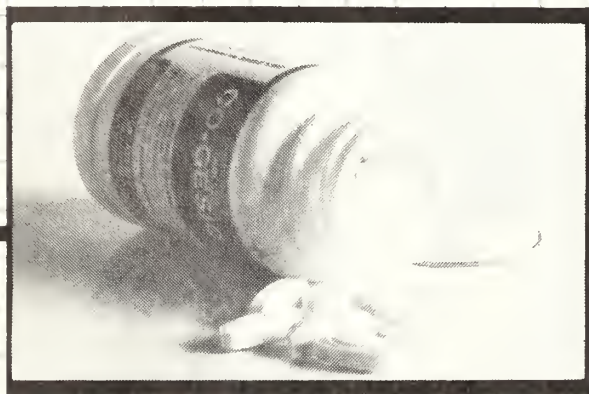
macy. Perhaps an open dialogue on this issue can provide an arena of continued professional support and an exchange of mutually supportive ideas.

#### REFERENCES

1. Burns Indiana Statutes Annotated. 25-22.5-1-1.1 (1).
2. Current Opinions of the Judicial Council of the American Medical Association 1984. 8.06 (4).
3. Correll S: Pharmacists ask licensing of physicians who dispense. *American Medical News*, March 8, 1985.
4. Hickman WR: Physician dispensing bill a threat to our profession. *President's Communique*, June 1985.

# Co-Gesic<sup>®</sup>

(500 mg. Acetaminophen - 5 mg. Hydrocodone Bitartrate)



Proven  
Dependability



**CENTRAL PHARMACEUTICALS, INC.**

SEYMOUR, INDIANA 47274 USA

*Quality Pharmaceuticals Since 1904*



# Should ISMA Form a Union?

## A Message from the Executive Director

The traditional role of the physician as a legal "independent contractor" has been eroded by the evolution of full-time paid hospital staff, implementation of prospective payment systems, cost restraint measures, an attempt by government to control physicians' practices through the hospital, development of PPOs, HMOs and even the alliances of independent hospitals in specific geographic areas. Consequently, physicians are attempting to find ways out of what they perceive as a very threatening situation.

The developing question of separate incorporation of medical staffs has raised the issue of the possible unionization of physicians and the concerted action that would flow as a result of such action. Hospitals obviously view this concept with considerable concern. If the hospital had to bargain with its medical staff, the "gatekeepers" of its very existence, it would surely be in a disadvantaged position. However, most attorneys agree that hospitals have no obligation under the National Labor Relations Act to recognize a labor union for physicians because physicians are considered independent contractors and are not common law employees of the hospital.

Nevertheless, the pressures on physicians are mounting. A classic economic case of rising supply and declining demand is facing today's physician. He is further encroached upon in his practice pattern, being second-guessed and told what level of care and length of stay is appropriate for his patients.

As a result of these fundamental changes in the perception of their profession and the socioeconomic erosion



DONALD F. FOY  
Executive Director  
Indiana State Medical Assn.

of their status, physicians are looking for a deliverance and relief from the pressure. It seems that the younger the physician, the greater the anxiety. The established practitioner frequently has established financial stability. The younger physician has leftover debts, unfilled appointment books and soaring overhead costs, including rapidly escalating malpractice insurance costs.

Faced with what they perceive to be a steady erosion of professional autonomy and control over the practice of medicine, it is not surprising that physicians are beginning to seriously consider collective action. Although most physicians still regard a physicians' union as a contradiction

in terms, a growing number of physicians (an estimated 25,000 nationally) are already participating in unions. This is a relatively small number, but I believe it is a measure of the drastic change taking place in the delivery of health care, especially in a profession that has prided itself on individualism.

Massachusetts recently became the eighth state and the first in the East to establish a physicians' union. Its organizers (not the State Medical Association) cite several new factors in the medical climate including for-profit medicine, intensified efforts to reduce hospital use, and the physician glut, that now make unionization feasible. According to Dr. John LaRossa, president of the newly organized Physicians and Surgeons Association of Massachusetts, the most important contributing factor to unionization (collective action) is the absolute loss of control physicians are experiencing in treating their patients.

According to its founder, the new Massachusetts union will represent physicians in two basic ways. It will bargain collectively on behalf of the growing number of physicians who are salaried employees of hospitals, HMOs, surgery centers, etc. and it will also represent private practicing physicians as they negotiate individually with third-party payers, including Medicare and Medicaid.

A closer review of the newly formed Physicians and Surgeons Association of Massachusetts (PSAM) reveals the following specific goals:

1. Representation of employed (salaried) physicians in collective bargaining over wages and working conditions.

2. Operation of an insurance grievance office to represent physicians (individuals) in claim disputes with insurance companies and government agencies.

3. Representation of private practicing physicians in individual contract negotiations or renegotiations with third-party payers, hospitals, government agencies and HMOs in order to ensure due process for physicians whose privileges have been unjustly reduced or denied by the hospital.

4. Lobbying on matters of concern to physicians and patients.

5. Dealing with the business community in those instances where the union believes physicians' or patients' rights are being abrogated by business interests.

The question then is whether ISMA should form a union or create a separate entity for that purpose to insulate itself from possible antitrust charges. Of course, any organization or group can unionize. The key is that if its members are not traditional employees, the union engages in activities at its own peril without the protection of the National Labor Relations Act. Thus, any collective action taken

by physicians who do not meet the test of being traditional employees would make them subject to antitrust actions. This doctrine would appear to apply to an ISMA union or one formed as part of a separate but related corporation. Moreover, as we studied the union concept, we discovered that most of the activities being attributed to a physician union could be conducted by the ISMA. One further thought on the need for physician unions is the fact that there are presently too few salaried physicians in any one locale in Indiana to have sufficient clout to warrant collective action.

Much of the frustration of physicians such as in Massachusetts stems from a perception that the state medical association has been unsuccessful as the physicians' advocate and that, therefore, a new organization is needed to represent their interests. Therefore, it would seem that if ISMA could take a more aggressive posture on behalf of its individual members, we could preclude any reason to form a separate union organization for so-called collective bargaining purposes while at the same time strengthening the viability of ISMA.

It is interesting to note that ISMA could and has been performing to a limited degree, all of the above-mentioned activities embraced by PSAM with the exception of Item 1 (collective bargaining). We have already indicated that, at the present time, there are probably too few salaried physicians who are considered legitimate employees concentrated in one locale who could benefit from collective bargaining.

Thus, it would appear logical that ISMA create a special in-house Physician Support Service activity that would perform the functions listed above. Additionally, our Physician Support Services activity could also coordinate, through broker arrangements with credible outside experts, the provision of negotiating services, financial services, investment services, and practice management services.

In my judgment, one of the most important services that such an activity could perform would be to assist physicians in resolving reimbursement problems with third-party carriers. Physicians (ISMA members) having such problems are encouraged to contact Greg Bowes at ISMA Headquarters.

## PATIENTS NEEDED FOR DIABETES RESEARCH STUDY

The Diabetes Research and Training Center, Indiana University School of Medicine, is seeking patients for studies with an experimental aldose reductase inhibitor to determine if this drug will prevent or retard the development of diabetic retinopathy. Aldose reductase inhibitors work by preventing the accumulation of sorbitol in tissues including the lens, nerves and retina. They have already been found to prevent metabolic cataracts and to improve diabetic neuropathy in experimental trials. Since the retinal cells accumulate sorbitol, this trial is designed to determine if the administration of the drug would prevent retinopathy or retard its progress. The drug is ex-

perimental and although no serious side effects have been found, this study will require close follow-up for one to two years. The potential benefit for patients would be close follow-up of their diabetes and retinopathy including retinal photographs and the possible prevention of a serious and disabling complication of diabetes. The trial is in a double-blind format. Otherwise healthy patients with either type I (juvenile) or type II (adult) diabetes are being sought. Patients either without retinopathy or with non-proliferative retinopathy would qualify. Patient referral may be made by calling or having the patients call the Diabetes Center at (317) 630-6374.



# PROFESSIONAL LIABILITY INSURANCE CO



In ten years your malpractice carrier may be just a memory.

Unless it's Medical Protective.

As you consider professional liability insurance, consider this. The coverages stated in the policy are basically a promise — a promise to be here when needed regardless of legal climate or economic conditions. A company's ability to keep this promise is critical because your financial security may depend on it. Unfortunately, too many firms are now finding the task impossible.

Analyze your liability insurance options carefully just as you would any important investment. Go beyond the agent and the policy to the company that

stands behind both. How long has it been in operation? Has it weathered some of the tough times? Will it be there for you when you need help?

The Medical Protective Company pioneered professional liability coverage before the turn of the century and has served doctors exclusively ever since. Over 500,000 of them. Through good times and bad. We'll be here when you need us.

Contact The Medical Protective Company through one of our general agents. History shows we keep our promises.

**1902**

**MEDICAL PROTECTIVE COMPANY**

**FORT WAYNE, INDIANA**

Vernon E. Hoover, John J. Lindenschmidt, H. Jere Frey  
Suite 237, 6100 North Keystone Avenue, P.O. Box 20576  
Indianapolis, IN 46220, (317) 255-6525

Robert B. Newell  
Suite 265, 2260 Lake Avenue  
Fort Wayne, IN 46805, (219) 422-4783



# 1985 CONVENTION REPORT

PHOTOS BY  
ADELE LASH  
AND  
RHONDA ROTH



Dr. Roger D. Saylors of Michigan City registers upon arrival at the South Bend Century Center, site of the 1985 convention.



Dr. Fred W. Dahling, vice-speaker, addresses delegates during the 136th annual convention.



Dr. Lawrence E. Allen delivers his presidential address during the opening session of the House of Delegates.



Dr. Paul Siebenmorgen presents the president-elect's address during the opening session of the House of Delegates.



Dr. James E. Davis, speaker of the AMA House of Delegates, addresses ISMA delegates.



Drs. Peter R. Petrich, R. Adrian Lanning and Max N. Hoffman of the 9th District confer during a House session.



Fifty-five of ISMA's 81 county medical societies were represented in the House of Delegates.



Dr. Allen presents a bouquet to Muriel Osborne, ISMA Auxiliary president.



Dr. Paul Maier, Reference Committee 1 chairman, is flanked by Dr. Roger D. Saylor (left) and Dr. William L. Strecker.





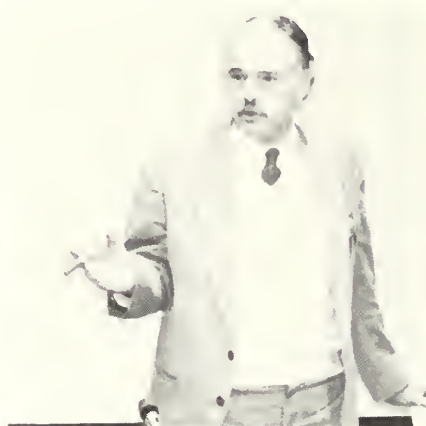
U.S. Sen. Dan Quayle addresses the Association of Indiana Directors of Medical Education.



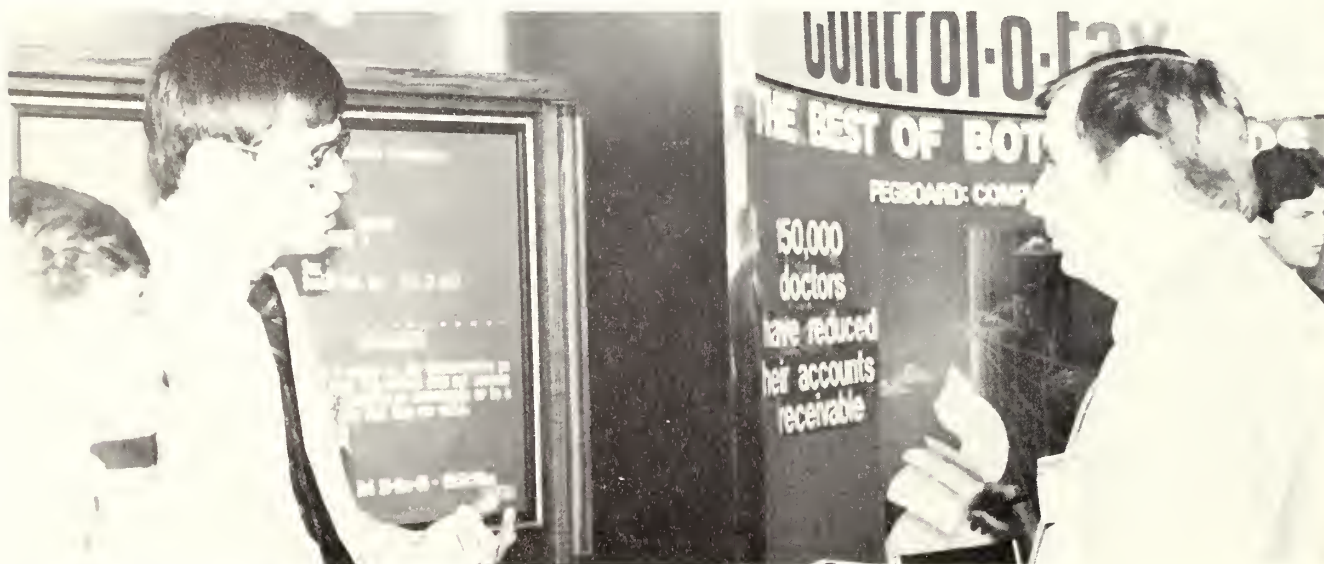
Ohio Congressman Bob McEwen, guest speaker at the IMPAC luncheon, chats with Dr. and Mrs. Marvin E. Priddy of Fort Wayne.



Dr. A. Patricia Harper discusses "Breast Imaging" during a meeting of the Section on Radiology. At the lectern is Dr. Donald R. Sugarman, program chairman.



Dr. G. Douglas Talbott of Atlanta, Ga. was among the guest speakers at the general scientific meeting on "Physicians and Stress."

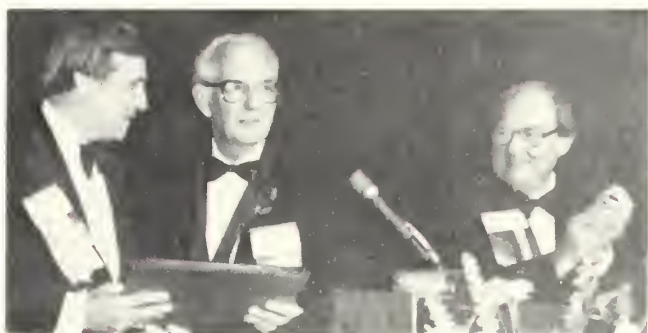


Dr. Dennis Richmond of Lafayette (right) visits one of 40 convention exhibits.





Newly installed members of the ISMA Fifty Year Club. (A complete listing appears on page 52).



Dr. Siebenmorgen (center) presents a recognition plaque to Dr. Allen. At right is Dr. John D. MacDougall, chairman of the Board of Trustees.



Dr. Shirley Khalouf, newly elected president-elect, speaks with Dr. James E. Davis, speaker of the AMA House of Delegates.



Dr. Khalouf and Dr. Marvin E. Priddy stop by an insurance exhibit staffed by Mr. Jim Townsend and Mr. Earl Williams.



Dr. Malcolm O. Seamahorn and Dr. Benny Ko register at one of the exhibits.



1935-1985

## *Indiana State Medical Association*

# *Fifty Year Club*

## *Honor Roll*

This year several physician members of the Indiana State Medical Association are being recognized for their fifty years of service as loyal and devoted practitioners of medicine. They join the long list of distinguished Hoosier physicians who have been inducted into the Fifty Year Club since its inception in 1948.

The Indiana State Medical Association wishes to formally acknowledge the unselfish service to their patients and profession contributed by the following physicians:

Joseph H. Baltes, M.D., Fort Wayne  
Allen County  
Neal E. Baxter, M.D., Bloomington  
Owen-Monroe County  
Samuel E. Bechtold, M.D., Ft. Walton Beach, Fla.  
St. Joseph County  
Lowell F. Beggs, M.D., Columbus  
Bartholomew-Brown County  
James G. Bledsoe, M.D., Naples, Fla.  
Henry County  
Leo R. Brown, M.D., Merrillville  
Lake County  
Lawson J. Clark, M.D., Indianapolis  
Marion County  
Robert W. Currie, M.D., Bradenton, Fla.  
Allen County  
John P. English, M.D., South Bend  
St. Joseph County  
William A. Gitlin, M.D., Bluffton  
Wells County  
Francis P. Jones, M.D., Indianapolis  
Marion County  
Leo Kammen, M.D., Indianapolis  
Marion County  
John T. Kemp, M.D., Michigan City  
LaPorte County  
Joseph W. King, M.D., Anderson  
Madison County  
Philip L. Kurtz, M.D., Indianapolis  
Marion County  
James M. Leffel, M.D., Zionsville  
Marion County  
George W. Macy, M.D., Columbus  
Bartholomew-Brown County

George W. Marsh, M.D., West Lafayette  
Tippecanoe County  
Luis D. Martinez, M.D., San Francisco  
Lake County  
Wilber J. Menke, M.D., Terre Haute  
Vigo County  
Louis Moosey, M.D., Union Mills  
LaPorte County  
Warren V. Morris, M.D., Monticello  
White County  
Walfred A. Nelson, M.D., Gary  
Lake County  
William K. Newcomb, M.D., Royal Center  
Cass County  
W. R. Orr, M.D., Mishawaka  
St. Joseph County  
George Plain, M.D., South Bend  
St. Joseph County  
Walter J. Rissing, M.D., Fort Wayne  
Allen County  
Lewis C. Robbins, M.D., Indianapolis  
Marion County  
Jacob Rosenwasser, M.D., Mishawaka  
St. Joseph County  
Edward C. Voges, M.D., Terre Haute  
Vigo County  
George W. Wagoner, M.D., Delphi  
Carroll County  
Donald E. Wood, M.D., Indianapolis  
Marion County  
Warren W. Young, M.D., Evansville  
Vanderburgh County



## Call to Order, Miscellaneous Business

The Indiana State Medical Association House of Delegates convened its 136th Annual Convention, featuring the theme "Medicine at the Crossroads," at 1 p.m., EST, Thursday, Nov. 14, 1985, at the Century Center, South Bend, Ind. The final session of the House of Delegates convened at 9:30 a.m., EST, Sunday, Nov. 17, 1985. Presiding at both sessions were Dr. Shirley T. Khalouf, speaker, assisted by Dr. Fred Dahling, vice speaker. Dr. Lloyd L. Hill, Peru, served as parliamentarian. Invocation was given by Dr. Malcolm O. Seamahorn, Pittsboro.

### Approval of Minutes

The proceedings of the 135th Annual Meeting of the House of Delegates, held at the Radisson Hotel, Indianapolis (Oct. 19-22, 1985) and published in *INDIANA MEDICINE*, December 1984, were approved.

### Election of Officers

Dr. Paul Siebenmorgen, Terre Haute, as president-elect, succeeded to the office of president. Dr. Shirley Khalouf, Marion, was elected president-elect. Other elections included:

Treasurer—Dr. George Rawls, Indianapolis

Assistant Treasurer—Dr. Max Wesemann, Franklin

Speaker of the House—Dr. Fred W. Dahling, New Haven

Vice Speaker of the House—Dr. Charles D. Egnatz, M.D., Schererville

Chairman, Board of Trustees—Dr. John MacDougall, Beech Grove

Clerk/Chairman Pro Tem, Board of Trustees—Dr. John W. Luce, Michigan City

At Large Member, Executive Committee—Dr. Mark M. Bevers, Seymour

At Large Member, Executive Committee—Dr. Michael Mellinger, LaGrange

### Election of Delegates, Alternate Delegates to the AMA

The following were elected to two-year terms as delegates and alternate delegates to the American Medical Association, their terms to expire December 31, 1987:

#### Delegates:

Marvin E. Priddy, M.D., Fort Wayne

Peter R. Petrich, M.D., Attica

Thomas C. Tyrrell, M.D., Hammond

#### Alternates:

Martin J. O'Neill, M.D., Valparaiso

Herbert C. Khalouf, M.D., Marion

Vincent J. Santare, M.D., Munster

Holdover AMA Delegates and Alternate Delegates: (Terms expire Dec. 31, 1986)

#### Delegates:

Everett E. Bickers, M.D., Floyds Knobs

Malcolm O. Seamahorn, M.D., Pittsboro

Gilbert M. Wilhelmus, M.D., Evansville

#### Alternates:

Alvin J. Haley, M.D., Carmel

John A. Knote, M.D., Lafayette

Robert M. Seibel, M.D., Nashville

### Elected/Reelected Trustees, Alternates—1985-86

#### Trustees:

District 2—Paul J. Wenzler, M.D., Bloomington

District 3—Thomas A. Neathamer, M.D., Jeffersonville

District 6—Clarence G. Clarkson, M.D., Richmond

District 9—Max N. Hoffman, M.D., Covington

District 12—Michael O. Mellinger, M.D., LaGrange

## IN MEMORIAM

Tribute to members of the Indiana State Medical Association who have died since the 1984 session.

Robert H. Brosius, M.D., Fort Wayne  
Frank M. Brown, M.D., Indianapolis  
Frederick H. Buehl, M.D., Vincennes  
Glen W. Cartwright, M.D., Lafayette  
Alexander W. Cavins, M.D., Terre Haute  
Sylvia S. Cheng, M.D., Walton  
William H. Clark, M.D., South Bend  
Leon T. Cox, M.D., Marco  
James F. DeNaut, M.D., Knox  
James W. Denny, M.D., Indianapolis  
Francisco D. Deogracias, M.D., Edinburg  
Paul E. Dingle, M.D., Richmond  
Thomas O. Dorrance, M.D., Bluffton  
Edwin W. Dyar, M.D., Indianapolis  
Hubert M. English, M.D., Ann Arbor  
Charles L. Entner, M.D., Dunkirk  
John B. Eviston, M.D., Huntington  
Nathaniel D. Ewing, M.D., Vincennes  
C.B. Fausset, M.D., Brownsburg  
Malcolm S. Floyd, M.D., Vincennes  
Leon J. Garrison, M.D., Gas City

Maurice E. Glock, M.D., Avon Park  
James H. Gosman, M.D., Indianapolis  
Joseph L. Guckien, M.D., Evansville  
Benton M. Hensler, M.D., Anderson  
Louis E. How, M.D., South Bend  
Walter G. Hunsberger, M.D., Lafayette  
James M. Jay, M.D., Indianapolis  
Rex M. Joseph, M.D., Danville  
Maurice V. Kahler, M.D., Star City  
Charles H. Kenner, M.D., Indianapolis  
Isadore J. Kwitny, M.D., Indianapolis  
Richard M. LaSalle, M.D., Wabash  
Leon Levi, M.D., Indianapolis  
Edwin V. Marchand, M.D., Evansville  
Charles F. Martin, M.D., South Bend  
Roscoe E. Miller, M.D., Indianapolis  
Harold E. Miller, M.D., Seymour  
Albert J. Miller, M.D., West Lafayette  
Robert J. Morrow, M.D., Bedford  
Charles W. Myers, M.D., Carmel  
Roy V. Myers, West Palm Beach  
George E. Oldag, M.D., Elwood  
Arvine G. Popplewell, M.D., Indianapolis  
Karl E. Puterbaugh, M.D., Daleville  
Efren A. Ramirez, M.D., Indianapolis

James V. Richart, M.D., Terre Haute  
John L. Rittmeyer, M.D., Muncie  
Henry J. Rusche, M.D., Evansville  
Edward B. Ruschli, M.D., Lafayette  
Hubert M. Rusk, M.D., Wallace  
David C. Ryan, M.D., Columbus  
Don A. Sears, M.D., Odon  
Garry A. Sekema, M.D., Frankfort  
Vernon A. Shanklin, M.D., Vincennes  
J.L. Simms, M.D., Indianapolis  
Richard A. Snapp, M.D., Columbus  
Clifford C. Taylor, M.D., Indianapolis  
Thomas F. Teller, M.D., Evansville  
Robert W. Turgi, M.D., Merrillville  
John P. Turner, M.D., Goshen  
C.P. Van Meter, M.D., Indianapolis  
Lloyd A. Vogel, M.D., Fort Wayne  
Khalil G. Wakim, M.D., Terre Haute  
Berniece Morris Williams, M.D., Fort Wayne  
Collins R. Wallace, M.D., Fort Wayne  
Peter V. Westhaysen, M.D., Munster  
John E. Wyttenbach, M.D., Indianapolis  
Gerald S. Young, M.D., Muncie  
Francis G. Zeier, M.D., Evansville



## Call to Order, Miscellaneous Business

### Alternates:

District 1—Bruce Romick, M.D.,  
Evansville

District 2—Jerome E. Melchior, M.D.,  
Vincennes

District 3—Richard G. Huber, M.D.,  
Bedford

District 4—William E. Cooper, M.D.,  
Columbus

District 5—Fred E. Haggerty, M.D.,  
Greencastle

District 6—Ray A. Haas, M.D., Green-  
field

District 7—Donna J. Meade, M.D.,  
Indianapolis

District 7—Michael B. DuBois, M.D.,  
Indianapolis

District 8—Douglas A. Triplett, M.D.,  
Muncie

District 10—Nicholas L. Polite, M.D.,  
Hammond

District 13—Steven M. Yoder, M.D.,  
Goshen

Dr. Nicholas L. Polite, Alternate Trustee, District 10, succeeds to the office of Trustee, District 10, due to the election of Dr. Charles D. Egnatz to the office of Vice Speaker of the House. According to the ISMA Bylaws, the president of the District Medical Society, Dr. Frank Sturdevant, Valparaiso, assumes the office of Alternate Trustee.

### Scientific Exhibit Awards

1st Place Award: "Atypical Symptoms of Tourette Syndrome."

Exhibitor: Donald A. Dian, M.D.

2nd Place Award: "Procedure for Staining Fixed Human Brain Slices for Use in Teaching Neuroanatomy."

Exhibitors: Susan L. Stoddard and Matthew W. Heller.

3rd Place Award: "Power Lawn Mower Injuries in Childhood."

Exhibitor: Charlene Graves, M.D.

## Dr. Shirley Khalouf Chosen President-Elect



Dr. Khalouf

Dr. Shirley T. Khalouf of Marion was chosen president-elect of the Indiana State Medical Association Nov. 17 during the 136th annual convention in South Bend.

Dr. Khalouf, a private practitioner who is director of the physical medicine and rehabilitation department of Marion General Hospital, was elected by the 200-member House of Delegates during the final session of the House. She will assume the presidency of the ISMA at its 137th annual convention in Indianapolis in November 1986.

Dr. Paul Siebenmorgen of Terre Haute succeeded Dr. Lawrence E. Allen of Anderson as president.

Dr. Khalouf is the ISMA's first woman president-elect. She has served as both vice-speaker and speaker of the

ISMA House of Delegates and is a past president of the Grant County Medical Society. At Marion General Hospital, she has been both the chief of medical staff and chief of medicine. She was recently appointed by Governor Orr to the Indiana Commission for the Handicapped.

Dr. Khalouf earned a B.A. degree from Susquehanna University (Selinsgrove, Pa.) and the M.D. degree from the Medical College of Pennsylvania. After internships in Philadelphia and Harrisburg, she completed a residency at the Cleveland Clinic Foundation, Cleveland, Ohio.

She is married to Dr. Herbert C. Khalouf, a general surgeon who is presently an AMA alternate delegate.



## **ISMA Welcomes Its 143rd President**

**Paul Siebenmorgen, M.D.**

**President  
Indiana State Medical Association  
1985-1986**

Dr. Paul Siebenmorgen of Terre Haute accepted the presidency of the Indiana State Medical Association Nov. 17 during the final session of the House of Delegates at the 136th annual convention of the ISMA.

Dr. Siebenmorgen, chairman of the ISMA Board of Trustees until October 1984, succeeded Dr. Lawrence E. Allen, Anderson, as president of the Association.

Dr. Siebenmorgen, a specialist in family practice, received a B.S. degree in Education from Indiana State University in 1941 and the M.D. degree from Indiana University School of Medicine in 1944. After completing his internship at Methodist Hospital in Indianapolis, he served in the U.S. Army Medical Corps from 1945 to 1947.

A native of Terre Haute, Dr. Siebenmorgen maintained a solo private practice there from 1947 until July 1984 when his daughter, Dr. Susan Siebenmorgen Amos, joined him in the practice of family medicine. Dr. Siebenmorgen, a charter fellow of the American Academy of Family Physicians since 1972, has been an associate, clinical faculty, Terre Haute Center for Medical Education, since 1974; preceptor, Dept. of Family Medicine, I.U. School of Medicine, since 1968; and was an instructor, St. Anthony Hospital School of Nursing, from 1948 to 1958.

He has been a member of the Vigo County Medical Society, ISMA and AMA since 1947. In addition, he has been a member of the Terre Haute Academy of Medicine since 1947, and

the American Academy of Family Physicians and Indiana Academy of Family Physicians since 1956.

Dr. Siebenmorgen has held offices in a large number of medical organizations, including: ISMA trustee, 10th Medical District, 1978-84; president, Vigo County Medical Society, 1970-71; president, Terre Haute Academy of Medicine, 1974-75; president, Indiana Academy of Family Physicians, 1980; president of the medical staff, Terre Haute Regional Hospital, 1976; and chairman, Citizen's Advisory Committee, Terre Haute Center for Medical Education, 1980-82.

He and his wife Jan have three children.

## House of Delegates

- ADAMS (1)**  
Norval S. Rich, Director
- ALLEN-FORT WAYNE (9)**  
Charles H. Aust, Fort Wayne  
Fred W. Dahling, New Haven  
Robert W. Dettmer, Fort Wayne  
Thomas A. Felger, Fort Wayne  
Fouad A. Halaby, Fort Wayne  
Marvin E. Priddy, Fort Wayne  
Charles E. Schoenhals, Fort Wayne  
Edwin E. Stumpf, New Haven  
Harry D. Tunnel, Fort Wayne
- BARTHOLOMEW-BROWN (3)**  
Richard Pitman, Columbus  
Edward L. Probst, Columbus  
Robert M. Siebel, Nashville
- \*BENTON (1)**  
Manley K. Scheurich, Oxford
- BOONE (1)**  
Paul R. Honan, Lebanon
- CARROLL (1)**  
T. Neal Petry, Delphi
- CASS (1)**  
Richard L. Glendening, Logansport
- CLARK (2)**  
E. Austin B. Johnson, II, Sellersburg  
William K. Schmeid, Jeffersonville
- \*CLAY (1)**  
Paul E. Houston, Brazil
- CLINTON (1)**  
Stephen D. Tharp, Frankfort
- \*DAVIESS-MARTIN (2)**  
Horace Norton, Washington
- \*DEARBORN-OHIO (2)**  
Gerald Bowen, Lawrenceburg  
Gordon Fessler, Rising Sun
- \*DECATUR (1)**
- DE KALB (1)**  
Gary Lee Sheeler, Auburn
- DELAWARE-BLACKFORD (4)**  
Larry Cole, Yorktown  
John Osborne, Muncie  
Donald W. Hunsberger, Montpelier  
L. Marshall Roch, Muncie
- DU BOIS (1)**  
Bernard P. Kemker, Jasper
- ELKHART (3)**  
G. Beach Gattman, Elkhart  
Willard S. Krabill, Goshen  
John B. Guttman, Wakarusa
- FAYETTE-FRANKLIN (2)**  
William F. Kerrigan, Connersville  
Perry F. Seal, Brookville
- FLOYD (1)**  
Everett Bickers, Floyds Knobs
- FOUNTAIN-WARREN (2)**  
Jack Furr, Hillsboro  
Atee Salvo, Williamsport
- \*FULTON (1)**  
Jamie G. Ramos, Rochester
- GIBSON (1)**  
William R. Wells, Princeton
- GRANT (2)**  
Laurence K. Musselman, Marion  
Shirley Khalouf, Marion
- \*GREENE (1)**  
Frederick Ridge, Linton
- HAMILTON (1)**  
R. Adrian Lanning, Noblesville
- \*HANCOCK (1)**  
Ray A. Haas, Greenfield
- HARRISON-CRAWFORD (2)**  
Bruce E. Burton, Corydon
- HENDRICKS (1)**  
Lloyd Terry, Danville
- \*HENRY (1)**  
Craig Boone, New Castle
- HOWARD (2)**  
Jack W. Higgins, Kokomo  
Tom Scherschel, Kokomo
- HUNTINGTON (1)**  
Richard Wagner, Huntington
- JACKSON (1)**  
George Weir, Brownstown
- JASPER (1)**  
Kenneth J. Ahler, Rensselaer
- JAY (1)**  
James S. Fitzpatrick, Portland
- JEFFERSON-SWITZERLAND (2)**  
George L. Alcorn, Madison
- \*JENNINGS (1)**  
Louis Calli, Sr., North Vernon
- JOHNSON (1)**  
Max M. Wesemann, Franklin
- KNOX (1)**  
Ralph W. Stewart, Vincennes
- KOSCIUSKO (1)**  
Wymond B. Wilson, Mentone
- LA GRANGE (1)**  
John A. Egli, Topeka
- LAKE (13)**  
J. Albert Carey, Gary  
Mary E. Carroll, Crown Point  
P. G. Iatridis, Gary  
Walfred A. Nelson, Gary  
Barron M. F. Palmer, Hammond  
Nicholas L. Polite, Hammond  
Daniel T. Ramker, Hammond  
Creighton M. Rawlings, Munster  
Ronald R. Reed, Hammond  
William Sabo, Munster  
Joseph J. Sala, Merrillville  
Lee Trachtenberg, Munster  
Thomas C. Tyrrell, Hammond
- LA PORTE (2)**  
Barbara Backer, LaPorte  
Rodger D. Saylors, Michigan City
- LAWRENCE (1)**  
Prasoon K. Samaddar, Bedford
- MADISON (2)**  
E. Drew Carrel, Anderson  
Joseph C. Copeland, Anderson
- MARION-INDIANAPOLIS (29)**  
William H. Beeson  
Garry L. Bolinger  
John O. Butler  
Edward M. Cockerill  
Helen G. Czenkusch  
Fred R. Dallas  
A. Alan Fischer  
John L. Glover  
Kenneth Gray  
Bradford R. Hale  
Donald J. Kerner  
John C. Lowe  
George T. Lukemeyer  
John D. MacDougall  
James J. McCallum  
Loren M. Martin  
B. T. Maxam  
I. E. Michael  
Robert W. Mouser  
Paul Muller  
David J. Need  
John G. Pantzer  
George Rawls  
Donald L. Rogers  
Robert L. Rudesill

\*Indicates that county was not represented at either session of the House of Delegates.



## House of Delegates

Roland Rust

Richard B. Schnute

Willis Stogsdill

Douglas H. White

### \*MARSHALL (1)

Michael F. Deery, Culver

### MIAMI (1)

James E. Duncan, LaFontaine

### MONTGOMERY (1)

M. Keith Baird, Crawfordsville

### \*MORGAN (1)

Ray D. Miller, Martinsville

### \*NEWTON (1)

M. F. Guzman, Morocco

### NOBLE (1)

James D. Chandler, Avilla

### \*ORANGE (1)

Phillip T. Hodgkin, Orleans

### OWEN-MONROE (4)

David Johnloz, Bloomington

B. Diane Wells, Spencer

William E. Weber, Jr., Bloomington

Paul J. Wenzler, Bloomington

### \*PARK-VERMILLION (2)

J. F. Swaim, Rockville

### \*PERRY (1)

Robert A. Ward, Tell City

### \*PIKE (1)

Donald L. Hall, Petersburg

### PORTER (2)

Frank M. Sturdevant, Valparaiso

John L. Swarner, Jr., Valparaiso

### POSEY (1)

John Vogel, Mt. Vernon

### PULASKI (1)

W. R. Thompson, Winamac

### PUTNAM (1)

J. Thomas Vieira, Coatsville

### RANDOLPH (1)

Susan K. Pyle, Union City

### \*RIPLEY (1)

A. A. Daftary, Batesville

### RUSH (1)

Bud Santelices, Rushville

### ST. JOSEPH (6)

Don Chamberlain, Mishawaka

Alfred Cox, South Bend

Robert D. Dodd, South Bend

G. Richard Green, South Bend

Richard A. Schaphorst, Mishawaka

Lee Smith, Mishawaka

### \*SCOTT (1)

Marvin L. McClain, Scottsburg

### SHELBY (1)

Wilson L. Dalton, Shelbyville

### \*SPENCER (1)

Michael O. Monar, Rockport

### STARKE (1)

Walter Fritz, Knox

### STEUBEN (1)

Kenneth A. Bison, Angola

### \*SULLIVAN (1)

Glen McClure, Sullivan

### TIPPECANOE (4)

Thomas A. Bridge, Lafayette

Dennis Richmond, Lafayette

Paul T. Maier, Lafayette

Barbara J. Bourland, Lafayette

### \*TIPTON (1)

Terrence J. Ihnat, Elwood

### VANDERBURGH (8)

John Bizal, Evansville

Bryant Bloss, Evansville

Ray H. Burnikel, Evansville

Charles W. Hachmeister, Evansville

Eugene L. Hendershot, Evansville

Bruce Romick, Evansville

Elizabeth Sowa, Evansville

L. Ray Stewart, Evansville

### VIGO (3)

James T. Deppe, Terre Haute

Robert R. Taube, Terre Haute

William L. Strecker, Terre Haute

### WABASH (1)

Fred Poehler, LaFontaine

### \*WARRICK (1)

L. B. Asuncion, Boonville

### \*WASHINGTON (1)

Mark E. Manship, Salem

### WAYNE-UNION (3)

James R. Daggy, Richmond

James R. Lewis, Richmond

Gerald L. Price, Liberty

### WELLS (1)

George K. Babcock, Bluffton

### \*WHITE (1)

James C. Balvich, Monticello

### \*WHITLEY (1)

Thomas G. Hamilton, Columbia City

### RESIDENT DELEGATE

Steven G. Lester, Indianapolis

### STUDENT DELEGATE

Dean Beckman, Indianapolis

# The 1985 Convention

## House of Delegates Actions

Resolutions acted upon by the 1985 House of Delegates appear verbatim in the green insert of this issue. Of the 29 resolutions introduced, 19 were adopted, eight were not adopted, and two were referred. Memorial resolutions honoring Dr. Arvine Popplewell and Dr. James Gosman, former ISMA presidents, were also adopted. Following is a digest of adopted resolutions:

- *Uniform Determination of Death Act* (85-16) provides that ISMA support legislation to establish a statutory definition of death.

- *.05% Blood Alcohol Concentration* (85-22) provides that ISMA support or initiate legislation to reduce the amount of blood alcohol required for proof of drunk driving from .10% to .05%.

- *Motorcycle Helmets* (85-17) provides that ISMA seek legislation requiring motorcyclists to wear protective headgear.

- *Therapeutic Substitution and Pharmaceutical Alternatives* (85-11) provides that ISMA oppose legislation to allow therapeutic substitution by pharmacists.

- *Physicians on Hospital Boards* (85-13) provides that ISMA recommend that at least one physician be appointed to hospital lay and/or governing boards.

- *Funding for Graduate Medical Education* (85-4) provides specific recommendations for financing GME.

- *Legal Negotiations* (85-3) provides that the ISMA Board of Trustees investigate methods for physicians to legally negotiate and/or arbitrate with all third-party payors.

- *Designated Tax on Alcohol and Tobacco Products* (85-1) authorizes the ISMA Board of

Trustees to study the issue of funding for graduate medical education and the feasibility of funding GME through increased state cigarette and alcohol taxes.

- *Peer Review* (85-15) authorizes the ISMA Board of Trustees to develop a protocol for dealing with problems that evolve from peer review.

- *Smoke Free Society* (85-18) provides that ISMA support AMA efforts to promote a smoke free society by the year 2000.

- *Breast Cancer Information* (85-20) recommends that ISMA continue to provide up-to-date information on treatment of breast diseases.

- *Recommendations to Indiana Legislature* (85-21) authorizes ISMA to establish workshops for school athletic team physicians, trainers and officials; to encourage schools to obtain physician-consultants for sports-related medical services.

- *Physician Support Services* (85-27) authorizes the ISMA Board of Trustees to establish an in-house physician support service.

- *Indigent Health Care* (85-28) authorizes the ISMA Executive Committee to establish an ad hoc study committee on health care for the indigent.

- *AIDS* (85-29) provides that ISMA establish an ad hoc study committee to work with the State Board of Health to establish a statewide program for AIDS.

- *Ad Hoc Study Committee on Field Staff Membership Services* (85-26) authorizes the ISMA Executive Committee to appoint an ad hoc study committee to develop with the Future Planning Committee and ISMA staff leadership a recommendation on field staff membership services.

RESOLUTION 85-1

Introduced by: Resident Medical Society of the ISMA  
Subject: Designated Tax On Alcohol And Tobacco Products  
Referred to: Reference Committee 3  
ACTION: Adopted as amended

Whereas, The recent change to a prospective payment system by the Medicare/Medicaid system has caused an increased burden on financing medical education; and

Whereas, The recent concern in Congress with the budget of the U.S. Government and its large deficits has resulted in recommendations to restrict and cut the student loan program; and

Whereas, These same concerns have resulted in numerous proposals to limit interest deductions in the tax code; and

Whereas, The use of tobacco and alcohol products increases health problems which increase the financial drain on both the private and public sector; and

Whereas, Financial disincentives hopefully should decrease the use of tobacco and alcohol products and result in a decrease in health problems related to their use; therefore be it

Resolved, That the ISMA Board of Trustees study the issue of potential reduced funding for graduate medical education and the feasibility of increasing the state cigarette and alcohol tax with a large portion of these new revenues designated for graduate medical education costs to keep medical education affordable for all citizens of Indiana.

RESOLUTION 85-2

Introduced by: Miami County Medical Society  
Subject: Membership Of Active Duty Military Physicians  
Referred to: Reference Committee 5  
ACTION: Referred to the Board of Trustees with subsequent report to the 1986 House of Delegates

Whereas, Organized medicine at all levels should encourage the broadest possible membership of physicians; and

Whereas, The Armed Forces on active duty must include members of the medical profession; and

Whereas, Physicians on active duty would not derive full benefits of membership in ISMA compared to other members; and

Whereas, Membership of active duty military physicians would provide stronger bonds between military and non-military physicians; therefore be it



Resolved, That any physician member of the active duty military service (not to include physicians in the Reserve on temporary active duty) be permitted to join a constituent medical society of ISMA and become a member of ISMA at reduced dues.

SUBSTITUTE RESOLUTION 85-3A

Introduced by: Miami County Medical Society  
Subject: Legal Negotiations With Third Party Payors  
Referred to: Reference Committee 3  
ACTION: Adopted

Resolved, That the Board of Trustees investigate methods whereby physicians of Indiana will be able to legally negotiate and/or arbitrate with all third party payors.

RESOLUTION 85-4

Introduced by: Commission on Medical Education  
Subject: Funding For Graduate Medical Education  
Referred to: Reference Committee 4  
ACTION: Adopted as amended

Whereas, The current health care system in the United States is excellent and is considered to be the best in the world today; and

Whereas, This system is integrated with the system of medical education including graduate medical education which improves the quality of health care as well as providing access to care; and

Whereas, Since medical education is a continuum of education including undergraduate, undergraduate medical, graduate medical and continuing medical education, anything affecting one portion of the continuum such as graduate medical education will affect the remainder of medical education. Also in the continuum all medical school graduates should be assured a place in graduate medical education; and

Whereas, The Indiana State Medical Association (ISMA) is dedicated to the provision of quality health care to all people regardless of socio-economic status, racial or ethnic groups; and

Whereas, As the ISMA continues to support the principle that financial support for a major portion of the graduate medical education system be supported through patient care revenues as stated in Resolution 84-12 adopted by the 1984 ISMA House of Delegates; and

Whereas, It is proposed to freeze direct Graduate Medical Education (GME) payments (salaries of residents) having a significant disproportionate adverse effect on hospital residency programs; and

Whereas, Current proposals call for halving the indirect pass-through now and prior to receiving accurate data for computing disease severity indices allowing the Diagnostic Related Groups (DRG) rate system to be applied equitably in teaching and non-teaching hospitals; and

Whereas, No alternate adequate and stable source of funding for GME has been determined; and

Whereas, Graduates of Liaison Committee on Medical Education (LCME) accredited medical schools are competing with alien and American foreign medical graduates for positions in accredited residencies; and

Whereas, The total number of physicians needed in the United States is not definitely determined; and

Whereas, No strategies for producing the "proper" specialty distribution of primary care physicians and other specialties have been developed; and

Whereas, Standardization and quality of GME programs have been assured by the existing and highly effective Accreditation Council for Graduate Medical Education (ACGME) which has also allowed institutional authority and responsibility for GME; therefore be it

Resolved, That the ISMA recommend reimbursement of direct costs be with increases in costs linked to an inflation indicator [e.g., medical component of Consumer Price Index (CPI)] and further that it should be provided for the entire duration of residency training; and be it further

Resolved, That the ISMA recommend indirect pass-through payment should not be changed until the accurate data are available for computing disease severity indices which will allow the DRG rate system to be applied equitably in teaching and non-teaching hospitals; and be it further

Resolved, That the ISMA recommend the use of patient care dollars for GME funding should continue until careful study has determined that an alternate and adequate stable source of funding is available; and be it further

Resolved, That the ISMA recommend that all graduates of LCME accredited medical schools should be assured an opportunity for positions in funded accredited GME programs while opportunities for alien and American-born foreign medical graduates may be provided (but not assured); and be it further

Resolved, That the ISMA recommend that when the total number of physicians needed in the U.S. is reasonably determined, if changes in the number is required that said changes be placed upon entry to medical schools and not upon entry into GME; and be it further

Resolved, That the ISMA recommend strategies for producing the "proper" specialty distribution of primary care physicians and other specialists be carefully developed and studied before specific manpower suggestions are proposed; and be it further

Resolved, That the ISMA recommend that physicians should have the opportunity to seek residencies in the specialty of their choice; and be it further

Resolved, That the ISMA recommend that GME should continue to be governed by the existing highly effective ACGME which would assure the preservation of institutional authority and responsibility for GME; and be it further

Resolved, That the ISMA recommend that institutions sponsoring GME should be encouraged to be affiliated with an LCME accredited medical school but with no implication of medical school administrative control; and be it further

Resolved, That the ISMA recommend that before any "reform" in financing GME there must be careful study of the potential impact of changes in GME on both access and quality of health care for the uninsured, underinsured or indigent patients in Indiana and the United States; and be it further

Resolved, That a copy of this resolution be distributed to all Indiana legislators.

#### RESOLUTION 85-5

Introduced by: Lawrence E. Allen, M.D., F.A.C.S.

Subject: Establishment Of A Standing Patient Advocacy Committee

Referred to: Reference Committee 2

ACTION: Not adopted

Whereas, ISMA has an ad hoc committee established for the purpose of monitoring the IPRO programs with specific attention to denials of needed hospitalization and cases of inadequate medical care because of fiscal restraints; and

Whereas, This ad hoc committee has served as a monitoring committee for several instances of inquiry raised by our membership; and

Whereas, There exists a continued purpose for such a committee to identify and monitor patient concerns and to offer a forum for discussion of health care system deficiencies related to tightened Federal resources allocations; therefore be it

Resolved, That a standing committee representing "Patient Advocacy" be formed by ISMA to continue the efforts of the current ad hoc committee to monitor the ongoing activities of IPRO, and to work to formulate appropriate improvements in the system.

FISCAL NOTE: \$175.00 per meeting



RESOLUTION 85-6

Introduced by: Subcommittee on Accreditation/Commission on Medical Education  
Subject: Commission Terms Of Office  
Referred to: Reference Committee 2  
ACTION: Not adopted

Whereas, 7.07 of the Bylaws states in part, "No member of a commission shall serve on the same commission more than two consecutive terms;" and

Whereas, Many of the commissions require expertise in specific areas; and

Whereas, When an individual possesses the knowledge and willingness to serve, his/her membership is to the commission's advantage and should not be contingent upon the number of years previously served; therefore be it

Resolved, That Section 7.07 of the current bylaws be deleted.

RESOLUTION 85-7

Introduced by: ISMA Board of Trustees  
Subject: Commission And Committee Member Substitutes  
Referred to: Reference Committee 2  
ACTION: Not adopted

Whereas, The attendance at some of the ISMA Commission and Committee meetings has been poor; and

Whereas, It is critical that physician input at Commission and Committee meetings be obtained prior to decisions being made; therefore be it

Resolved, That the ISMA Bylaws be amended to permit the ISMA Trustee or a designate of the ISMA Trustee (from the District affected) to substitute as a voting representative on ISMA Commissions and Committees in the absence of the regular member.

**FISCAL NOTE:** \$2,000.00 (postage and duplicating costs average approximately \$2.50 per agenda for each meeting. \$2.50 x 14 trustees x 8 commissions x 4 meetings per year + 50 trustees x 4 committee meetings per year = \$1,720.00)

This fiscal note assumes that the agendas for each commission and committee meeting will be mailed to each trustee.

RESOLUTION 85-8

Introduced by:

ISMA Commission of Physician Impairment

Subject:

ISMA Membership Suspension As A Result Of Medical Licensing Board Suspension

Referred to:

Reference Committee No. 2

ACTION:

Referred to Board of Trustees for consideration by the Commission on Constitution and Bylaws. (Reference Committee Recommendation: To establish an ISMA "restricted membership" category for those persons whose licenses have been suspended; however, with no change in the termination of membership for those persons whose licenses have been revoked.)

Whereas, Section 1.0303 of the Indiana State Medical Association states:

Suspension or Revocation of License: No person whose license to practice medicine has been suspended or revoked or who is under sentence of suspension or expulsion from a component society, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Association or of a component county society, or shall said person be permitted to take part in any of their proceedings until the license and/or county membership has been restored. This shall not apply to physicians who have surrendered their license because of retirement under the provisions of the Medical Practice Law.; and

Whereas, The Physician Impairment Commission believes that it must have the ability to work with a member that can be rehabilitated, over whatever period of time may be necessary in order to restore that physician to full practice; and

Whereas, The current ISMA policy precludes membership in ISMA and forfeits all rights and benefits of ISMA membership once a physician's license has been suspended or revoked by the Medical Licensing Board; therefore be it

Resolved, That the ISMA policy of immediately suspending the membership of an ISMA member when the member's license has been suspended or revoked by the Medical Licensing Board be changed to provide that an individual physician who is a member of ISMA and who has submitted himself/herself to the ISMA Commission on Physician Impairment or a comparable county or hospital impaired physician committee, may continue as a member of ISMA with full membership privileges (even after suspension or revocation of his/her license by the Medical Licensing Board) so long as he/she is actively cooperating with all treatment prescribed by the appropriate Impaired Physician Committee and is making satisfactory progress in his/her rehabilitation.

RESOLUTION 85-9

Introduced by: Lawrence E. Allen, M.D., F.A.C.S., ISMA President  
Subject: ISMA Dues Review - Biennial Review Of Dues Structure  
Referred to: Reference Committee 5  
ACTION: Not adopted

Whereas, ISMA does not have a corresponding dues adjustment policy that recognizes the CPI as a factor in ISMA budget requirements; and

Whereas, ISMA did not observe a dues increment between fiscal years 1975-1984, while CPI increases proceeded at double digit increments; and

Whereas, ISMA has relied in a major way on non-dues revenues without dues adjustment to allow for reinvestment of income from non-dues resources; therefore be it

Resolved, That the Executive Committee recommend to the Board of Trustees for favorable approval an ISMA dues adjustment at least every two years to reflect changes in the economic index.

RESOLUTION 85-10

Introduced by: Lawrence E. Allen, M.D., F.A.C.S., ISMA President  
Subject: Exemption Of AMA Delegates And Alternate Delegates From The Classification Of ISMA Major Offices  
Referred to: Reference Committee 6  
ACTION: Not adopted

Whereas, Involvement of ISMA Delegates to the AMA in positions of service and leadership is vital to the best interest of ISMA members; and

Whereas, The process of political evolution for ISMA delegates to the AMA represents multiple years of AMA involvement; and

Whereas, Indiana physicians involved in positions of ISMA leadership constitute a valuable source of ISMA representation to the AMA; and

Whereas, The stipulation of classification of major offices in ISMA bylaws bars physicians occupying positions of leadership in ISMA from participation in the AMA as a Delegate or Alternate Delegate; therefore be it

Resolved, That AMA Delegates and Alternate Delegates be exempted from the classification of ISMA major offices.



RESOLUTION 85-11

Introduced by: Indiana AMA Delegation and ISMA Board of Trustees  
Subject: Therapeutic And Pharmaceutical Substitution By Pharmacists  
Referred to: Reference Committee 3  
ACTION: Adopted as amended

Whereas, There is a true medical risk to the health of the patient in therapeutic and pharmaceutical alternatives by pharmacists; and

Whereas, The risk could have a potential adverse reaction on the cost and availability of medical liability insurance; and

Whereas, The result of permitting therapeutic or pharmaceutical alternatives could be to increase the cost of medical services rather than lower the cost; and

Whereas, Therapeutic and pharmaceutical alternatives by pharmacists intrude on the physician-patient relationship, and raise significant legal questions; and

Whereas, The attending physician is uniquely suited to assume the professional and legal responsibility for determining a patient's drug therapy; and

Whereas, The design of an effective drug therapy for a patient depends not only on a thorough knowledge of pharmacology, but also on an array of medical information about the individual patient being treated; therefore be it

Resolved, That the Indiana State Medical Association oppose legislative attempts at any level of government that would permit pharmacists, when presented with a prescription for a drug product:

1. to dispense instead a drug product that is administered by the same route and contains the same pharmaceutical moiety and strength but differs in the salt or dosage form (pharmaceutical alternatives)
2. to dispense a drug product containing a different pharmaceutical moiety but which is of the same therapeutic and/or pharmacological class (therapeutic substitution); and be it further

Resolved, That this resolution be presented to the AMA House of Delegates in December 1985.

RESOLUTION 85-12

Introduced by: ISMA Hospital Medical Staff Section  
Subject: HMSS Vote In ISMA House Of Delegates  
Referred to: Reference Committee 2  
ACTION: Not adopted

Whereas, The Hospital Medical Staff Section of the Indiana State Medical Association is composed of one representative and one alternate representative appointed, or otherwise selected from the medical staff of each licensed hospital in Indiana; and

Whereas, The ISMA-HMSS constitutes true grass roots representation of hospital medical staffs to the ISMA; and

Whereas, The ISMA-HMSS assures the same vote for a small hospital as for a large hospital in a manner comparable to the unit vote allotted individual states by the composition of the United States Senate, irrespective of the population of the states represented; and

Whereas, Inasmuch as the ISMA in providing a voice for the physicians of Indiana, individually and collectively, should also provide a voice for the actively practicing physicians who constitute the medical staffs of Indiana hospitals; and

Whereas, The ISMA-HMSS is constituted in a manner totally different from all other sections of the ISMA in that it represents no single specialty interest, but the interests of all; and

Whereas, The nature of a democratic organization demands that it be given a vote in the democratic process; and

Whereas, The House of Delegates of the American Medical Association recognizing the aforementioned admits a delegate with full voting privileges from the AMA-HMSS to its chambers; therefore be it

RESOLVED, That the House of Delegates of the Indiana State Medical Association admit a delegate (and alternate) with full voting privileges from the ISMA-HMSS Section.

#### RESOLUTION 85-13

Introduced by: Indiana State Medical Association Hospital Medical Staff  
Section

Subject: Physicians To Serve As Full Voting Members On Hospital Boards  
Of Trustees

Referred to: Reference Committee 5

ACTION: Adopted as amended

Whereas, The socio-economic environment of medical services delivery is rapidly changing; and

Whereas, The Hospital Medical Staff Section is concerned that the quality of patient care can be adversely affected by this changing environment; therefore be it

Resolved, That the Indiana State Medical Association recommend the appointment of at least one physician, with full voting privileges, to all hospital lay boards or governing boards; and be it further

Resolved, That the physician voting member be recommended by the hospital medical staff.

RESOLUTION 85-14

Introduced by: Indiana State Medical Association Hospital Medical Staff Section  
Subject: ISMA-HMSS Routine Submission Of Late Resolutions  
Referred to: Reference Committee 2  
ACTION: Not adopted

Whereas, The grass roots character of the Hospital Medical Staff Section will allow a timely address of problems affecting hospital medical staffs; and

Whereas, The time for resolution submission requires a second meeting to fulfill this requirement on the part of this section; therefore be it

Resolved, That the ISMA allow the routine submission of late resolutions from the Hospital Medical Staff Section.

SUBSTITUTE RESOLUTION 85-15A

Introduced by: Joe D. Richardson, M.D.  
Subject: Abuse Of Peer Review Mechanisms  
Referred to: Reference Committee 4  
ACTION: Adopted as amended

Resolved, That the Board of Trustees develop a protocol for physician advisement regarding problems arising through peer review quality assurance programs and select an appropriate mechanism to generate assistance.

RESOLUTION 85-16

Introduced by: Commission on Legislation  
Subject: Uniform Determination Of Death Act  
Referred to: Reference Committee 3  
ACTION: Adopted

Whereas, Indiana does not have a statutory definition of death; and

Whereas, The American Medical Association cooperated with the Uniform Law Commission on Medical Ethics and the American Bar Association in drafting the Uniform Determination of Death Act; and



Whereas, A statutory definition of death would provide a comprehensive and medically sound basis for determining death in all situations; therefore be it

Resolved, That the ISMA exert its strongest efforts to enact the Uniform Determination of Death Act as law in Indiana.

RESOLUTION 85-17

Introduced by: Commission on Legislation  
Subject: Motorcycle Helmets  
Referred to: Reference Committee 3  
ACTION: Adopted

Whereas, The operation of motorcycles without protective headgear causes useless suffering, injury and death; therefore be it

Resolved, That the Indiana State Medical Association support legislation to require protective headgear to be worn by all drivers and passengers of motorcycles.

RESOLUTION 85-18

Introduced by: Commission on Legislation  
Subject: A Smoke-Free Society By The Year 2000  
Referred to: Reference Committee 6  
ACTION: Adopted

Whereas, The American Medical Association has resolved to work for a smoke-free society by the year 2000; and

Whereas, Smoking is the most preventable cause of death in the United States; and

whereas, Smoking related disease contributes greatly to the high cost of health care; therefore be it

Resolved, That the Indiana State Medical Association support the American Medical Association's efforts to create a smoke-free society by the year 2000.

RESOLUTION 85-19

Introduced by: ISMA Board of Trustees  
Subject: Formation Of Statewide IPA/HMO  
Referred to: Reference Committee 4  
ACTION: Not adopted

Whereas, Every member who follows the activities of the Indiana State Medical Association is aware that the ISMA has been studying whether to form an Independent Practice Association (IPA) and a Health Maintenance Organization (HMO) which would be controlled by ISMA and would operate statewide; and

Whereas, Forces are combining to reduce the physician's independence and an ISMA statewide plan will assure that high-quality medicine is preserved and that some of the savings that result from the lowering of utilization will accrue to the physician (rather than shareholders of public corporations); and

Whereas, Prepaid plans are growing in Indiana and elsewhere and practicing physicians are feeling their impact; and

Whereas, ISMA members are facing a choice -- either to sign a contract with one or more prepaid plans or lose patients; and

Whereas, The impact of HMOs is not felt just in the cities. The HMOs currently operating in some of our larger cities are extending well beyond the metropolitan areas and will eventually reach into the surrounding small towns and rural areas; and

Whereas, It is the intention of Medicare and Medicaid to seek HMO-type arrangements for their beneficiaries thereby carrying the impact of the HMOs into every corner of Indiana; and

Whereas, Most physicians are familiar with the forces at work in the medical care environment that are contributing to the loss of control physicians are experiencing in treating their patients thereby reducing physicians to nothing more than employees; and

Whereas, One of ISMA's goals would be to have a large, open-panel of physicians to maximize the patient's freedom of choice, while physicians would be free to join as many plans as they see fit, consistent with the ability of such plans to preserve and enhance their patient base; and

Whereas, In forming a statewide IPA, ISMA would want to avoid being divisive and alienating those county societies already sponsoring similar plans, which could be done by networking the existing plans for the purposes of a cooperative marketing effort while at the same time providing those physicians not already aligned with the opportunity to participate in a statewide IPA; and

Whereas, An HMO formed by ISMA will give ISMA members an opportunity to participate in an HMO controlled by ISMA and its member-physicians; and

Whereas, ISMA members would be able to participate by signing a contract with the IPA which would receive a capitation payment from the HMO for each enrollee, and said IPA would compensate its contracting physicians on a fee-for-service basis up to the maximum allowable fee with a portion withheld to assure the organization's success; and

Whereas, Earlier this year the ISMA conducted a survey of the membership to determine interest in a statewide IPA/HMO; and

Whereas, Of the 5,264 members surveyed, 1,517 answered yes and 764 responded no, for a total response of 44%; and

Whereas, Based on the interest expressed in this survey and comments received from around the State, your leadership continued to study the issue, first through a Task Force on Alternative Delivery Systems; and

Whereas, The Board of Trustees has discussed this issue at its last two meetings and at its meeting on August 25, 1985 agreed (based on a recommendation from its ad hoc Committee on Alternative Delivery Systems) to submit this resolution to the House of Delegates in November; therefore be it

Resolved, That in order to better serve the physicians of Indiana and preserve quality care for their patients, this House of Delegates consider the formation of a statewide IPA/HMO.

**FISCAL NOTE:** Before a certificate of authority can be issued by the Insurance Commissioner, a prepaid health care delivery plan applicant must post a surety bond of \$100,000.00 or 2.5% of plan's gross annual premiums up to a maximum of \$250,000.00, whichever is greater.

#### SUBSTITUTE RESOLUTION 85-20A

Introduced by: Richard G. Huber, M.D.

Subject: Breast Cancer Information

Referred to: Reference Committee No. 4

**ACTION:** Adopted

Resolved, That ISMA continue to disseminate to its members through its appropriate agencies information regarding the treatment of malignant disease. Also, ISMA as an organization, and its members individually, should continue to support community agencies in their efforts to disseminate to the public medically accepted information and treatment alternatives.

#### RESOLUTION 85-21

Introduced by: Commission on Sports Medicine

Subject: Recommendations To Indiana Legislature

Referred to: Reference Committee 3

**ACTION:** Adopted as amended

Whereas, Physical fitness is a major component of good health; and



Whereas, Encouraging physical fitness of our youth is extremely important; and

Whereas, Participation in organized athletic programs is an extremely important means by which our youth learn to develop and maintain physical fitness; and

Whereas, The Commission on Sports Medicine of the Indiana State Medical Association feels that it is vital for the safety and well being of our youth that such programs be conducted in a safe environment, and that such programs be based on sound medical principles; therefore be it

Resolved, That the Indiana State Medical Association establish seminars or workshops to assist the team physicians, trainers, and school officials in establishing and maintaining such programs. (Fiscal Note: \$10,000).

Resolved, That ISMA encourage each school corporation in the state of Indiana to obtain the services of a physician who holds an unlimited license to practice medicine in Indiana to serve as a consultant regarding sports-related medical services for that school system.

Resolved, That the Board of Trustees actively encourage and support activities and efforts directed to place qualified trainers, or other individuals, in school corporations to assist the physicians with sports-related medical activities.

#### Resolution 85-22

Introduced by: Reduce Drunk Driving Committee

Subject: .05% Blood Alcohol Concentration As Per Se Illegal For Driving

Referred to: Reference Committee 5

ACTION: Adopted

Whereas, The AMA at its 1985 Annual Meeting adopted a position supporting 0.05% blood alcohol concentration (BAC) as per se illegal for driving; and

Whereas, The AMA urges all state medical societies to consider initiating or supporting bills in their state legislatures that would establish 0.05% BAC as per se illegal for driving; therefore be it

Resolved, That the Indiana State Medical Association initiate and/or support bills in its state legislature that will establish 0.05% Blood Alcohol Concentration (BAC) as per se illegal for driving.

#### RESOLUTION 85-23

Submitted by: Commission on Constitution and Bylaws

Subject: Hospital Medical Staff Section

Referred to: Reference Committee 2

ACTION: Adopted as amended

Whereas, The 1984 House of Delegates passed Resolution 84-17 which resolved as follows:

"Resolved, That the Indiana State Medical Association follow the leadership of the American Medical Association and form an Indiana Hospital Medical Staff Section; and be it further

Resolved, That the Indiana State Medical Association encourage all hospitals in the state to send an elected representative to both state and national meetings in said section." and

Whereas, Pursuant to Resolution 84-17 the Indiana State Medical Association has established its Hospital Medical Staff Section, and

Whereas, It is necessary to have the ISMA Constitution and Bylaws brought up-to-date to reflect the existence of the newly created Indiana Hospital Medical Staff Section, therefore be it

Resolved, That language be incorporated into the ISMA Constitution and Bylaws as recodified by Reference Committee 2.

#### RESOLUTION 85-24

Submitted by: Commission on Constitution and Bylaws  
Subject: Updating Of The ISMA Constitution To Be In Compliance With  
Recent Changes To The ISMA Bylaws  
Referred to: Reference Committee 2  
ACTION: Adopted as amended

Whereas, Recent changes to the ISMA Bylaws have added the Resident Medical Society and the Medical Student Society, and

Whereas, Throughout our Bylaws references have been made to "county" medical societies, when in fact the more appropriate terminology would be "component" medical societies since under our current Bylaws the phrase "component medical societies" refers to county medical societies, district medical societies, Resident Medical Society and the Medical Student Society, therefore be it

Resolved, That the ISMA Constitution be amended as follows:

#### ARTICLE I - TITLE AND DEFINITION

The name of this organization is the Indiana State Medical Association. It is the federacy of Indiana county component medical societies.

#### ARTICLE IV - MEMBERS

The Indiana State Medical Association is composed of individual members of county component medical societies and others as shall be provided in the Bylaws.

## ARTICLE VII - TRUSTEES

The Board of Trustees is composed of trustees and alternate trustees elected by the component district medical societies and the resident medical society, the president, president-elect, treasurer, immediate past president, assistant treasurer, speaker, vice speaker and the executive director. The members of the Board of Trustees shall have the power to vote as prescribed in the Bylaws.

The Board of Trustees shall have charge of the property and financial affairs of the Association and shall perform such duties as are prescribed by the law governing directors of corporations or as may be prescribed in the Bylaws.

### RESOLUTION 85-25

Introduced by: Commission on Constitution and Bylaws

Subject: Amendments to Bylaws as a Result of the Passage of Resolutions 84-8 and 84-9 Dealing With Resident Medical Society Representation on the ISMA Board of Trustees and ISMA House of Delegates

Referred to: Reference Committee 2

ACTION: Adopted

Whereas, The 1984 House of Delegates passed Resolution 84-8 and Resolution 84-9 dealing with Resident Medical Society representation on the ISMA Board of Trustees and ISMA House of Delegates, and

Whereas, The resolutions that were adopted by the 1984 House approved the concept but not the specific verbiage to be incorporated into the ISMA Constitution and Bylaws, and

Whereas, It is the desire of the Commission on Constitution and Bylaws to have the approval of the House of Delegates regarding the specific verbiage to be inserted into the Constitution and Bylaws in order to implement Resolution 84-8 and 84-9, now therefore be it

Resolved, That Section 5.01 be amended to read as follows:

"The Board of Trustees shall consist of: (1) the trustees with power to vote and their duly elected alternates, each of the latter without power to vote except when the trustee is not in attendance; and (2) ex-officio, the president, the president-elect, treasurer, immediate past president with power to vote, assistant treasurer without power to vote except in the case the treasurer is not in attendance, and the speaker, vice-speaker, the trustee (or the alternate) from and elected by the Resident Medical Society, and executive director without power to vote."

and be it further



Resolved, That Section 3.0205 be changed to read as follows:

"3.0205 Delegate Apportionment: Each component county society and the Resident Medical Society shall be entitled to send to the House of Delegates each year one delegate for every fifty members and one for each major fraction thereof, but irrespective of the number of members, each component society which has made its annual report and paid its assessments, as provided in this Constitution and Bylaws, shall be entitled to one Delegate, except that where a component society made up of physicians of more than one county, each county shall be entitled to at least one Delegate and one Alternate Delegate who shall be a resident of the county represented as a Delegate and who shall be selected by the physicians residing in such county. The Student Delegate shall be seated with full power to vote. In the absence of the Student Delegate, the Alternate Student Delegate shall be seated with full power to vote."

RESOLUTION 85-26

Introduced by: Lawrence E. Allen, M.D., F.A.C.S.  
Subject: Ad Hoc Study Committee on Field Staff Membership Services  
Referred to: Reference Committee 1  
ACTION: Adopted.

Resolved, That the ISMA Executive Committee appoint an ad hoc Study Committee to meet with ISMA's Future Planning Committee and ISMA Staff Leadership for the purpose of developing a recommendation to the Board of Trustees on the subject of ISMA Field Staff Membership Services.

RESOLUTION 85-27

Introduced by: Lawrence E. Allen, M.D., F.A.C.S.  
Subject: Physician Support Services  
Referred to: Reference Committee 1  
ACTION: Adopted.

Resolved, That this House impart to the ISMA Board of Trustees, the authority to create an inhouse Physician Support Service.

RESOLUTION 85-28

Introduced by: Lawrence E. Allen, M.D., F.A.C.S.  
Subject: Ad Hoc Study Committee on Health Care for the Indigent in Indiana  
Referred to: Reference Committee 1  
ACTION: Adopted.

Resolved, That the ISMA Executive Committee establish an ad hoc Study Committee on Health Care for the Indigent in Indiana; and be it further

Resolved, That the Chairman of the Committee be a physician and report periodically to the ISMA Board of Trustees and also present a recommendation to the ISMA House of Delegates in 1986, calling for the development of a statewide program to provide health care for the indigent.

RESOLUTION 85-29

Introduced by: Lawrence E. Allen, M.D., F.A.C.S.  
Subject: Ad Hoc Study Committee, AIDS Program  
Referred to: Reference Committee 1  
ACTION: Adopted

Resolved, That ISMA establish an ad hoc Study Committee that will collaborate with the State Board of Health in developing a statewide program for AIDS.

MEMORIAL RESOLUTION HONORING JAMES H. GOSMAN, M.D.

Introduced by: Indiana State Medical Association  
ACTION: Adopted by acclamation

Whereas, James H. Gosman, M.D., of Indianapolis, after a long and distinguished career, died on August 29, 1985, and

Whereas, Doctor Gosman was a dedicated medical professional who served his profession and community with distinction in a variety of leading capacities such as President of the Marion County Medical Society and Indiana State Medical Association, Alternate Delegate to the American Medical Association, board member of the American Cancer Society, and as one of 13 founders of the Hoosier Hundred marching band at Indiana University; and

Whereas, He served the medical profession in numerous other roles, including Chairman of the Board of the Marion County Medical Society, Trustee to the Indiana State Medical Association, President of the medical staff at Methodist Hospital, and Professor of Dermatology at Indiana University School of Medicine, and

Whereas, The sudden death of James H. Gosman, M.D., took from the Marion County Medical Society, Indiana State Medical Association, and the American Medical Association a highly skilled, experienced and dedicated member of organized medicine; therefore be it

Resolved, That this House of Delegates of the Indiana State Medical Association memorialize its respect to Dr. Gosman and extend its sincere condolences to his family.

MEMORIAL RESOLUTION HONORING ARVINE G. POPPLEWELL, M.D.

Introduced by: Indiana State Medical Association

ACTION: Adopted by acclamation

Whereas, Arvine G. Popplewell, M.D., died on February 8, 1985, after a medical career distinguished by leadership in both his profession and his community; and

Whereas, Doctor Popplewell served the medical profession devotedly and with great distinction in a variety of leading capacities such as President of the Marion County Medical Society in 1972, and the Indiana State Medical Association, 1978-1980; and

Whereas, He served as an Alternate Delegate to the American Medical Association and Delegate to the Indiana State Medical Association; and

Whereas, In these and other positions, Doctor Popplewell proved to be one of the most articulate, persuasive and effective spokesmen of organized medicine whose loyalty, seasoned judgment and sound counsel was respected by his colleagues; and

Whereas, Doctor Popplewell played a strong leadership role in the State of Indiana as President and Chairman of the Board of American Physicians Life Insurance Company; and

Whereas, The passing of Doctor Popplewell leaves his profession and his many friends and colleagues with a profound sense of loss; therefore be it

Resolved, That the sympathy of his colleagues in the House of Delegates be extended to his family and that this resolution be made a part of the official minutes of the 1985 Annual Meeting of the House of Delegates of the Indiana State Medical Association.

MEMORIAL RESOLUTION HONORING ARVINE G. POPPLEWELL, M.D.

Introduced by: Lake County Medical Society

ACTION: Adopted by acclamation

Whereas, Arvine G. Popplewell, M.D. was a widely known and highly respected member of his profession; and

Whereas, He was active in and supportive of the Marion County Medical Society, the Indiana State Medical Association and the American Medical Association; and

Whereas, He was a member of and held leadership position in his county, state, national and specialty medical association; and

Whereas, He was a past president of the Indiana State Medical Association, past president and board chairman of the Marion County Medical Society, and a leader in his specialty societies; and



Whereas, He held positions in several hospital, clinic, and medical school settings, including Administrator of Wishard Hospital; and

Whereas, He actively participated in community services; and

Whereas, He was a friend to all; therefore be it

Resolved, That this House of Delegates of the Indiana State Medical Association memorialize its respect to Dr. Popplewell and extend its sincere condolences to his family.

#### RESOLUTION OF COMMENDATION

Introduced by: City of South Bend, Indiana, Roger O. Parent, Mayor

Whereas, the Indiana State Medical Association will hold its 135th annual convention on November 13-17, 1985 in South Bend at the Century Center; and

Whereas, the theme of this years convention is "Medicine at the Crossroads"; and

Whereas, the members of the association are facing with dedication and experience the future challenges that will change the medical care delivery system available to our citizens; and

Whereas, Indiana's physicians have adopted a position of respect and advocacy for patients rights; therefore be it

Resolved, I, Roger O. Parent, Mayor of the City of South Bend, do hereby proclaim the week of November 13-17, 1985 as

#### INDIANA STATE MEDICAL ASSOCIATION WEEK

in South Bend and I urge all our citizens to recognize with appreciation the significant contributions made by the members of the organization to our community and our state.

## Reference Committees

### REFERENCE COMMITTEE NO. 1:

#### REPORTS OF OFFICERS

Paul Maier, M.D., Lafayette, Chairman (Tippecanoe County—District 9)	CD
David J. Need, M.D., Indianapolis (Marion County—District 7)	PD
William C. VanNess II, M.D., Summitville (Madison County—District 8)	FP
Rodger D. Saylor, M.D., Michigan City (LaPorte County—District 13)	FP
William L. Strecker, M.D., Terre Haute (Vigo County—District 5)	AN
William F. Kerrigan, M.D., Connersville (Franklin County—District 6)	GP

### REFERENCE COMMITTEE NO. 2:

#### CONSTITUTION AND BYLAWS

Laurence Musselman, M.D., Marion, Chairman (Grant County—District 11)	P
Elizabeth Sowa, M.D., Evansville (Vanderburgh County—District 11)	OPH
George Weir, M.D., Brownstown (Jackson County—District 4)	PTH
James Swonder, M.D., Richmond (Wayne County—District 6)	GE
William Sabo, M.D., Munster (Lake County—District 10)	ORS
Max Wesemann, M.D., Franklin (Johnson County—District 7)	FP

### REFERENCE COMMITTEE NO. 3

#### LEGISLATIVE

Larry Cole, M.D., Yorktown, Chairman (Delaware County—District 8)	FP
Donald J. Kerner, M.D., Indianapolis (Marion County—District 7)	FP
Donald S. Chamberlain, M.D., Mishawaka (St. Joseph County—District 13)	R
Frank M. Sturdevant, M.D., Valparaiso (Porter County—District 10)	OBG
B. Diane Wells, M.D., Spencer (Owen County—District 2)	IM
Charles E. Schoenhals, M.D., Fort Wayne (Allen County—District 12)	GS

### REFERENCE COMMITTEE NO. 4:

#### MEDICAL EDUCATION AND INSURANCE

Mary Carroll, M.D., Crown Point, Chairman (Lake County—District 10)	FP
Wymond Wilson, M.D., Mentone (Kosciusko County—District 13)	FP
Stephen D. Tharp, M.D., Frankfort (Clinton County—District 9)	IM
Ray Burnikel, M.D., Evansville (Vanderburgh County—District 11)	CRS
William K. Schmied, M.D., Jeffersonville (Clark County—District 3)	U
William Beeson, M.D., Indianapolis (Marion County—District 7)	GS

### REFERENCE COMMITTEE NO. 5

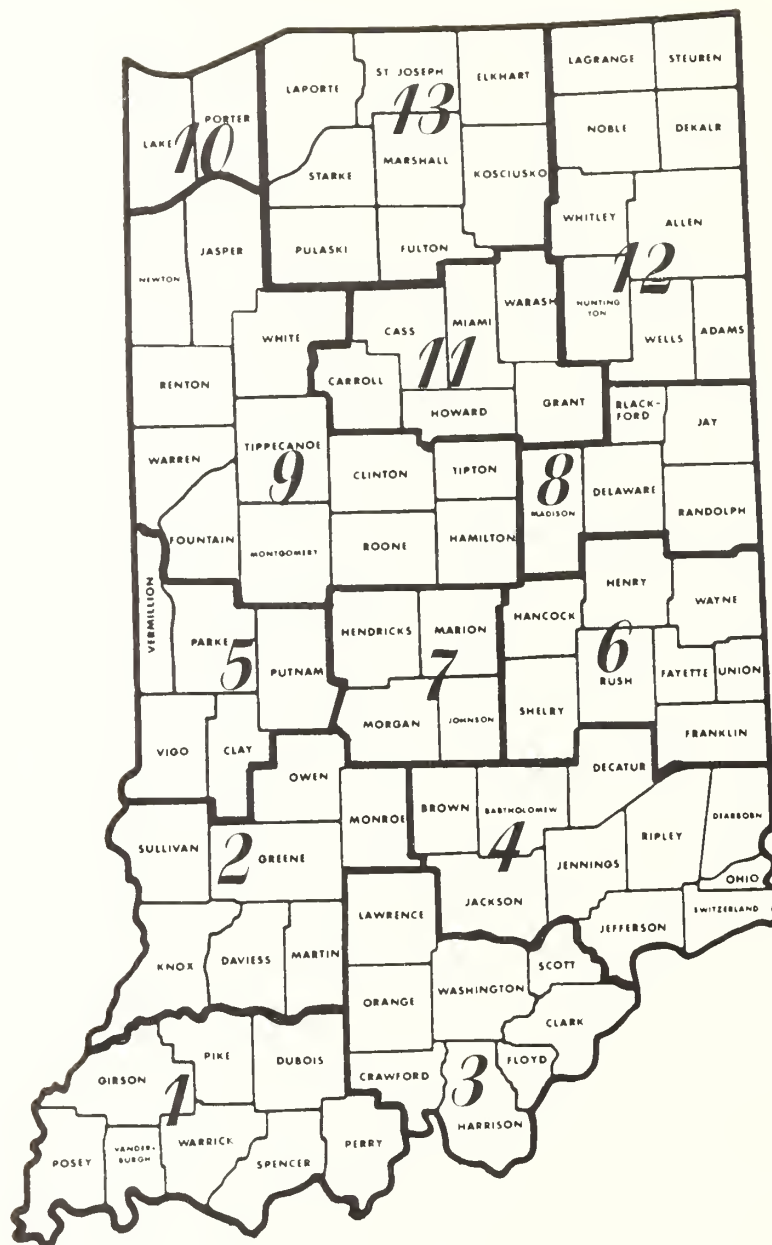
#### MISCELLANEOUS

Richard Pitman, M.D., Columbus, Chairman (Bartholomew County—District 4)	DR
Harry Tunnell, M.D., Fort Wayne (Allen County—District 12)	GS
Virginia Wagner, M.D., Indianapolis (Marion County—District 7)	PD
James Deppe, M.D., Terre Haute (Vigo County—District 5)	IM
Paul Wenzler, M.D., Bloomington (Monroe County—District 2)	FP
Douglas Zale—Indianapolis (Student)	

### REFERENCE COMMITTEE NO. 6

#### AMA MATTERS

Frederick Poehler, M.D., LaFontaine, Chairman (Wabash County—District 11)	AN
Steven Lester, M.D., Indianapolis (Resident Medical Society)	R
Daniel Ramker, M.D., Hammond (Lake County—District 10)	GS
John Egli, M.D., Topeka (LaGrange County—District 12)	FP
Everett E. Bickers, M.D., Floyds Knobs (Floyd County—District 3)	GP
Edward D. Gourieux, M.D., Evansville (Vanderburgh County—District 1)	FP



## *ISMA TRUSTEE DISTRICTS*



Referred to: Reference Comm. 1

**ACTION:** Resolutions 85-26, 85-27, 85-28, and 85-29 presented to the House of Delegates from the President's Address. Remainder of the address was filed.

### ISMA Year in Review

The 1984-85 ISMA year presented one of the more challenging agendas to your president, the Executive Committee, and the Board of Trustees in more than a decade.

We began this year with the realization that a major legislative redress of Public Law 146 (professional liability) was before us. It is widely recognized that Indiana's professional liability legislation, passed in 1975, is the most significant tort reform legislation ever accomplished in the history of American medicine. This is not only recognized by those working in the health field, but has now become commonly accepted by legislators as the landmark legislation in the malpractice field for the entire nation. I recently served on a panel addressing the State Chamber of Commerce and shared that participation with Senator Patricia Miller, who had this to say about Public Law 146: "Indiana's Malpractice Law has been so successful that practically every state in the Union has come to study the principles embodied in this law in order to attempt to emulate such legislation in their own state." So effective has Indiana's Malpractice Law been in holding the line on premium insurance costs, that physicians practicing in Indiana all share in the legacy of stabilized professional insurance premium rates. This premium cost factor ranges from 2½ to 10 times less than the premium costs of other states in our immediate region. As I pointed out in the March 1985 issue of *INDIANA MEDICINE* in an article entitled, "Public Law 146—An Indiana Advantage," doctors are not the only party enjoying a more favorable existence under the umbrella of this legislation. Patients are realizing a more responsive and fair compensation, and businesses, who must budget for the cost of health care in their employee

benefit package, are likewise enjoying the advantage of discounted health care costs.

This Indiana advantage cannot be seen more clearly than when we survey the prospectus for the re-insurance market that will take place January 1, 1986. On that date, the re-insurance carriers will cease to write insurance coverage for those companies marketing the *occurrence policy*, unless this policy is marketed in a state wherein there exists a cap limiting awards over the level of \$200,000-\$600,000. This means that with the exception of a few states like Indiana, the *occurrence policy* will no longer be available to physicians, but rather the more expensive *claims-made policy* will be the only option in the professional liability marketplace.

It was the universal concern of all parties dealing with the preservation of Public Law 146 that led to the Legislative Study Commission, chaired by Paul Mannweiler, during the summer of 1984. The concern that rightly prompted their attention to this matter had to do with the solvency of the Patient Compensation Fund. So crucial is the viability of this Fund, that it is undoubtedly a certain presumption that if the Fund fails, so would also the entirety of the Professional Liability Law. It is to our satisfaction that embodied in House Bill 1298, were multiple features that will serve to shore up the fiscal stability of the Patient Compensation Fund and preserve the promise that the practice of medicine in the state of Indiana will not be fraught with the skyrocketing premium cost increases that have become a nightmare for some states who have not accomplished similar responsible changes in the tort laws affecting the medical profession.

ISMA, through the efforts of the Legislative Commission and our respective lobby personnel, has scored a resounding success in this vital professional area of tort reform.

### A Closer Walk with Older Hoosiers

As outlined in my address to this House in October of last year, the need for a closer communication with older

Hoosiers was a top priority item for Indiana physicians. I addressed these concerns and the need for *targeted public relations* with our Commission on Public Relations. With the leadership of the chairman, Dr. Adrian Lanning, and the ISMA staff assigned to public relations activities, a program was conceived and launched under the title of "Happy, Healthy and Wise." This public relations effort has been structured and promoted as the first real accomplishment in health related information to our older citizens ever accomplished by any agency, governmental or otherwise. This program has not only received a commendable level of dedication and skill on the part of many physicians, it has also received an invaluable contribution and participation by several senior citizens throughout the state who have constituted the real stars of "Happy, Healthy and Wise." This program, made up of a six-part series of half-hour informational programs, recently aired on PBS in many locations throughout the state. I have had the privilege to be in attendance at the premier showing of two of these half-hour features—first in Bloomington, and more recently in Anderson. I am pleased to tell you that both the attendance and the enthusiastic response on the part of the senior citizens in the audience served to indicate to me that we are on target with both the concept of the program, as well as the informational features that are presented. This information has not only been in areas of nutrition, exercise, elder abuse, and stress, but the program also contains useful information for older Hoosiers seeking available support groups and community activities that will enrich their lives.

This public relations campaign not only includes televised informational programs, but also public service announcements on radio and T.V., informational brochures to be distributed to physicians for use in their offices and the creation of a Physician's Speakers Bureau that will be available for senior citizen groups.

Along with this program, members of your Executive Committee have met

## Address of the President

repeatedly with officers and leaders of various senior citizen groups in order to understand with them, the social and political needs that make up their agenda and also to allow them to understand the viewpoints of physicians as we attempt to provide opportunities for a happy and healthy life. I commend this program to you and invite your continued support of what I consider to be one of the real achievements of the past year for Indiana medicine.

### Physicians Against Driving Drunk—An ISMA Initiative That Is Now Public Policy

In 1982 the House of Delegates was stimulated by a resolution from Marion County to initiate a policy of action against drunk driving. This policy became a state policy as our General Assembly passed legislation leading to the formation of the Governor's Task Force on Hoosiers Against Drunk Driving. Through the expanded dedication of many people in government, business and the professions, this ISMA initiative has become a working public policy. Your Board of Trustees has continued this commitment of Physicians Against Drunk Driving through the sponsorship of more than 600 high school students who attended the most recent conference of Hoosiers Against Drunk Driving, conducted on the Indiana Central Campus this past August, and has sought to highlight the specific purpose of this program for our young people. The reason for this becomes quite clear when we consider the fact that highway fatalities constitute the leading cause of death for young people in the state of Indiana. It is further important for us to realize that 50% of the mishaps on our highways, related to drunk driving, involve young drivers between the ages of 16 and 24. It is with current satisfaction that I report to you that since the inception of the program for Hoosiers Against Drunk Driving, highway fatalities have decreased 30%. Although this is not a signal for us to relax our dedication to this program, nonetheless it does signify that we're on the right track

and we're getting something done about a deplorable scourge on our highways—a common tragedy that all too often has taken from us sons and daughters in the bloom of their life and left us only with the sadness of their unfulfilled dreams. If you, as a physician, or your spouse, do one thing in the next year, go home and recommit yourself to eliminating the atrocity of drunk driving.

### ISMA HMSS—A Mission Accomplished

As you recall, during the proceedings of our last House of Delegates meeting in October of 1984, a resolution was passed calling for the formation of a Hospital Medical Staff Section for ISMA. I took this upon myself as a specific task to be accomplished this year. In this accomplishment, the efforts of your president were small in comparison to the enormity of work demonstrated by certain ISMA staff members and the committee of physicians who accomplished the organizational agenda for the first meeting of the ISMA Hospital Medical Staff Section, September 8, 1985. As I pointed out in multiple letters to our various hospital medical staff officers, and in my remarks before the initial assembly of the Hospital Medical Staff Section in September, the concept of a Hospital Medical Staff Section is an idea whose time has come. There are none of us who cannot help but appreciate the enormity of change that has, and is, occurring for hospitals and hospital staff physicians. It is no longer an arena where vital issues may be left to the administrators and legal advisors of our hospitals, when those issues have to do with the very essence of quality care for the patients entrusted to our responsibility. A self-governing medical staff is not just a good idea for physicians, it is the only promise that quality care will continue to be available in our hospitals of tomorrow. There is no reasonable mind that would advise you to give up your rights of self-government and the right to elect your own leaders and construct your own bylaws. It is not in the best interest of the hospital medical staff, nor the administration of the hospital, for

physicians to exist without adequate legal counsel or negotiative representation. The future of our hospitals, and the contribution that physicians will make to these hospitals, will depend squarely upon the strength of physicians and their leadership. Physicians can, and should, contribute a positive and independent opinion in the decisions that are to be made in the interest of our hospitals and the patients they serve.

I would charge each of you with the responsibility of nurturing the concept of the ISMA Hospital Medical Staff Section in your own hospital. I have personally received the encouragement of Ken Stella, president of the Indiana Hospital Association, as he has addressed the idea of a Hospital Medical Staff Section as a program that has benefit both for physicians and hospitals. He has further pledged his support and willingness to participate in a program which is designed, not to confront physicians and administrators, but to bring about a new era of cooperation as we both plan for the future.

### ISMA—An Association in the Field

If there is one notion that has been expressed by this House in its past proceedings and by physicians throughout the state as I have met with the members of our various District Medical Societies, it is an oft repeated suggestion that the State Medical Association needs to be more personally evident through field representation.

If there are two programs that serve to underline the realization that field representation is the future for organized medicine, the formation of the Hospital Medical Staff Section, and the proposed development of a statewide in-house Physician Support Service, are indeed examples of the way we must conduct ourselves from this day on.

We have often debated the mechanism by which we should augment our field staff and membership services. I suggest to this House that we make this matter an item of business in the form of the following resolution: Be it



## Address of the President

RESOLVED, that the ISMA Executive Committee appoint an Ad Hoc Study Committee to meet with our Future Planning Committee and the ISMA staff leadership for the purpose of developing a recommendation to the Board of Trustees on the subject of *ISMA Field Staff Membership Services*, and be it further

RESOLVED, that this House impart to our Board of Trustees, the authority to create an in-house Physician Support Service.

### ISMA Auxiliary—A Common Bond for a Better Tomorrow

In my remarks to this House last year I referred to the ISMA Auxiliary as a *Magnificent Resource*. As I have witnessed the leadership and multiple talents of many, many Auxilians, I am more convinced of this perception than ever before. It has been my extreme pleasure to have shared this past year with two fine Auxiliary presidents. Later in the proceedings of this session you will hear a report delivered to you by the current Auxiliary president, Muriel Osborne. In this report, she will draw to your attention even more intensely than ever before, the crucial nature of increasing the membership of our Auxiliary. This lady has made her graceful presence a feature event in each of the District meetings that she has attended. She has brought to the attention of all the physicians and their spouses at our recent District meetings the common purpose of our two Associations and why Auxiliary membership is a crusade, not only for Auxilians, but even more so for the purpose of organized medicine.

In my remarks to you last year, I indicated the need for coordinating the activities of our Legislative Commission, our IMPAC Board, our Board of Trustees, and our Auxiliary. This past year I was pleased to see the formation of a working committee of Auxilians under the title of I-CARE. It was my pleasure to meet with these ladies and to suggest to them a schedule of projects that would serve to improve our effectiveness in the political and legislative arena, not only nationally, but more specifically, on a local and

state level. These projects had to do primarily with updating and making ready our Key Contact System. I also suggested the need for Auxiliary participation in state and federal candidate support activities ranging from campaign fund raising events to volunteer precinct work. The Auxilians appointed to the initial I-CARE committee were selected with an eye toward their previous experience in political activity, as well as the proposed willingness to commit their time to I-CARE projects over *successive years*. It is hoped that the organization of I-CARE will extend an opportunity for political commitment on the part of Auxiliary members who have demonstrated an interest in political projects in their local communities. It was further anticipated that these individual I-CARE members would bring to the committee a unique understanding for dealing with political matters in their local communities. I-CARE, then, is an attempt to orchestrate the recommendations of the Legislative Commission, IMPAC Board, Board of Trustees and Auxiliary, and convert these recommendations into political action.

A recent example of such action came as a response to my request that the members of I-CARE participate in a support effort on behalf of Dr. Otis Bowen, who, as you know was recently selected to be the new secretary of the Department of Health and Human Services. I also appointed an Ad Hoc Support Committee for Dr. Bowen, chaired by Dr. Paul Muller, who exercised a most energetic campaign to assist our former Governor in his bid for this most significant post.

Earlier in the year it was recognized that there existed a need for political training workshops, giving Auxiliary leaders an opportunity to be exposed to the political and health related issues, and the political strategy involved in dealing with such issues at the community and state level. The first such workshop was conducted November 6, 1985. I attended this workshop, and I am pleased to say, so did a large number of interested Auxiliary members and their leadership. I

would suggest that a second such workshop be scheduled for 1986 after the May primary elections. If we continue to *prepare* for our political future in this way, I am sure we can meet the challenges facing Indiana medicine.

As if our Auxiliary did not have enough already to occupy their service time, I am making one further proposal. I am asking that the leadership of our Auxiliary consider a project that will provide an easy source of information for senior citizens in our various communities throughout the state, who seek to make contact with appropriate *senior citizen support groups* and to further encourage the formation of a comprehensive list of such support groups that would be within easy access of the senior citizen seeking such assistance. Examples of such support groups and agencies include nutrition centers, Meals on Wheels, in-home visitation and transportation services, elderly abuse checkpoint centers, senior citizen exercise centers and agencies for the provision of cultural programs for senior citizens—to name just a few. Such Auxiliary outreach programs, expressed on the local community level, truly give evidence that there is a profession who cares, and cares enough to translate this caring into good deeds. We have in this state a vast community of older people waiting to receive you with open arms.

### The Great American Medical Insurance Myth

One of the more miscalculated beliefs that seems prevalent in the minds of health care commentators during the past few years of intensified concern with health care costs, is the misconception that the American citizen is over-insured. A simple review of the out-of-pocket expenditures by Americans in purchasing their health care will stand to challenge this misconception in every sector of health care delivery, with the exception of hospital care. Therein, insurance has paid for approximately 88% of the hospital bill with 12% being paid by the individual patient. By contrast, the studies by the Health and Human Services Department in 1977 up to the pre-



## Address of the President

sent time, demonstrated on survey of some 14,000 families that in ambulatory care alone, 59% of the fee for physician services was paid by direct patient resources. Eighty percent of drug purchases were out-of-pocket expenditures, and 80% of dental services likewise were reimbursed directly by patients. This is also true for medical appliances, wherein the out-of-pocket portion was nearly 79%. All in all, one-half of the monies reimbursed to providers for ambulatory health care have been from non insurance resources on the part of individual patients.

Now, when you examine the income situation that exists in this country, it should be realized that 25% of our population make an annual income of less than \$10,000. So, what does this mean in terms of reimbursement? It means one in four Americans cannot afford medical care unless they have insurance. Now, if we examine the percentage of our population that is not insured, we will find another disturbing truth—the fact that throughout the year some 30 million Americans are uninsured for one reason or another.

How have we handled this problem in the past? Well, to resurrect one of the buzzwords—"costshifting" has been the mechanism by which we have brought these uninsured and sometimes indigent people into our system of health care. It has allowed us as a nation to have a humane expression of concern and responsibility for those persons in our society who many times need health care the most—the poor, the aged and the unemployed.

Now that costshifting is a thing of the past, we have the not-so-attractive question of how we are going to provide health care for those three classes—the underinsured, the aged and the indigent. One fact is going to be readily apparent to all of us in the very near future, and that's the fact that *competition* alone is not going to take care of this problem. As a profession, we are going to face some very real ethical and moral questions about the responsibility of physicians in our society when it comes to equally addressing the health care needs of our population at large. Physicians in the

past have predicated their professional ethic on providing care based upon the needs of the patient. Now the ethic of competition is going to predetermine that decision, not based upon medical need, but upon ability to pay. With incomes of \$10,000 or less representing the economic profile of some 25% of our population, what's going to emerge based upon competition alone is a very ugly picture. One anesthesiologist who spoke to me about his experience while visiting in New York City and having the opportunity to also visit the various free-standing health care centers, coined a very appropriate description of the situation. He said, "You know, America has created through its social-economic policies and immigration quotas, a *third world* right here in the United States." We should not be surprised, then, if we find segments of our population behaving as third world nations, including the use of terrorism, riot and revolt. It is a national problem we simply cannot address by looking the other way.

Urban studies of unemployment in Indiana reveal that the problem of poverty is emerging as a very bold challenge in the larger cities throughout our state and adds emphasis to the issue of *medical care for the indigent*. How will the medical needs of the indigent be met in the Calumet area, for instance, where unemployment is severe and lost medical insurance is a fact? Will medical care be provided to the poor along the traditional practices of the past, where providers made individual decisions as to delivery of care without charge, or will that medical care be delivered as a form of entitlement? This is a very real question, and it is one that has yet to be expressed in political terms by our federal and state governments. Nevertheless, it is one that the voters of this state, and our political and business leaders, will have to come to terms with in the very next year.

It was with this question in mind that I recently reviewed a program initiated by the Kentucky Medical Association having to do with indigent care. This is a volunteer program designed to provide health care for persons who

subsist on incomes below the poverty threshold, and who are not eligible for Medicare or Medicaid. I have more directly discussed this question with the leaders of state government, inclusive of Governor Robert D. Orr, Commissioner of the State Board of Health, Dr. Woodrow A. Myers, Jr., and Director of the State Welfare Department, Donald L. Blinzinger, as well as Indianapolis Mayor William H. Hudnut. All have expressed support of a statewide program for providing health care to our indigent population. These individuals have pledged their full cooperation and participation in creating a system of health care in Indiana that will provide access to high quality health care for the indigent.

In order to facilitate the development of an Indigent Health Care Program, I am asking this House to adopt a resolution calling for the formation of a Study Commission on Indigent Care in Indiana. Therefore, be it

RESOLVED, that the ISMA Executive Committee establish a Study Commission on Health Care for the Indigent in Indiana and, be it further

RESOLVED, that the chairman of the Commission be a physician and report periodically to the ISMA Board of Trustees and also present a recommendation to the ISMA House of Delegates in 1986, calling for the development of a statewide program to provide health care for the indigent.

Consider, as we may, the future of the physician and his patient in terms of economy, medical standard, political expediency, or social demand, we invariably come upon one enduring truth, and that is this: When it comes time to stand at the bedside and make the critical decision dealing with life, limb and the challenge of pain and suffering, the individual who will eventually have to step forward and make that decision is none other than the physician—and do so for each patient individually. God help us that we always have the very best in our society of men and women to assume that role and do so without the encumbrances that are now distorting the doctor/patient relationship and threatening to dismantle the health

## Address of the President

care system of the American people.

### AIDS—A Public Health Dilemma

During the proceedings of the Indiana General Assembly of 1985, a most perplexing issue was laid at the doorstep of our legislators, and subsequently the ISMA Legislative Commission. This was the case of Amy Sloan of Lafayette. She was dying of AIDS and felt that she had nowhere to turn. This human tragedy quickly gained the attention of the media and presented a problem for which there was no simple solution. She had contracted the disease through a blood transfusion in a Lafayette hospital. The blood was donated from an Indianapolis Blood Bank. Potential danger for all Indiana citizens who might be receiving blood products aroused alarm of almost panic proportions. This alarm has been somewhat quieted by the introduction into our blood banking system of a screening procedure which will help us identify blood samples contaminated with the HTLV III virus. Despite this breakthrough, we are left with a public dilemma in dealing with AIDS as a present and future health problem for Indiana. This is particularly evident when we consider the enormity of misunderstanding and uncertainty that exists in the minds of civic leaders throughout the state as they respond to the questions having to do with risk of unsuspecting citizens being infected

by the newly recognized retrovirus.

At the present time, health providers are also perplexed by the lack of knowledge and therapeutic facility available to them in managing this generally fatal disease. Even more challenging to health providers is the responsibility of disseminating factual education and developing effective preventive measures that will be necessary to our efforts in containing the epidemic potential of Acquired Immune Deficiency Syndrome.

I have had lengthy conversation with Dr. Woodrow A. Myers, commissioner of the State Board of Health, on the subject of AIDS as a public health problem, and we mutually agree that there is a specific need to increase the involvement of ISMA in the current and future initiatives of the State Board of Health in dealing with this disease. Dr. Myers has advised me that the State Board of Health is planning to conduct an AIDS Awareness Program, scheduled for January 13-17, 1986. I am asking this House to approve a *resolution* calling for the establishment of an *ISMA Ad Hoc Study Committee* that will collaborate with the State Board of Health in developing a statewide program for AIDS. This program will be designed to intensify efforts toward research and education on the prevention of AIDS. One such project shall be the development of an informational docu-

ment that will be suitable for public dissemination dealing with factual guidelines for managing the public risk of contracting AIDS.

In closing, I wish to recognize the splendid work and untiring dedication that has been manifest in the activities of our various Commissions and Committees as they have sought to carry out the work of the Indiana State Medical Association. I will be forever indebted for their faithful support.

I specifically wish to acknowledge the members of our Board of Trustees, along with the able leadership of their chairman, Dr. John MacDougall, who have unfailingly supported Dr. Siebenmorgen and myself in accomplishing a full agenda of activities over the past year.

I also want to express words of gratitude to our executive director and each and every member of our ISMA staff who have gone the extra mile and given the extra hour, time and time again, during this year. Finally, I wish to leave with you a most heartfelt sentiment of appreciation for allowing me to experience one of the most meaningful honors to be bestowed upon an Indiana physician—that of being your president, the president of the Indiana State Medical Association. My best wishes will be with you always. Thank you.



Referred to: Reference Comm. 1  
ACTION: Filed.

As I prepare to take the reins of the Association during my year as president, my thoughts, of course, turn to the problems and issues which confront our organization. I would not be here if I did not believe that, with our skills, expertise and knowledge, it is we who can best serve the needs of our patients and the health of the citizens of this state as we work our way through these problems and issues.

There is one immutable law, which is that no individual or organization can be protected from change. Today we are in a state of rapid and continuous change, and the ISMA must continue to develop programs and initiate effective procedures to meet the challenge of change. Before proceeding, I, individually, and ISMA, collectively, must first of all thank Dr. Larry Allen for his tireless leadership during this past year in the initiation and development of innovative plans and structures that are now in place or on the drawing board. He has given us a fine legacy and a solid foundation as we build further to the future. I am indeed glad that he will continue to be a member of our team this year.

During my year as president, and as a consequence of the realization that the environment of medicine will continue to be altered, and with the realization that we must function wisely to ensure the continued growth and viability of the ISMA, I intend to continue strong emphasis on the following areas:

1. Stimulation of membership growth at the county, state and national levels.

2. Continuing search for ways in which the ISMA may serve the individual physician through such developmental projects as a physician service corporation or an ISMA physician service department.

3. Adequate housing arrangements for a growing staff and meeting facilities for the Executive Committee, the Board and Commissions and Committees.

4. The increasing supply of physi-

cians and the effect of this growth on medical practice.

5. Political education and involvement by members in legislative liaison and contact.

6. Continuing emphasis on communications with the members and positive public relations programs.

7. Developing closer relationships with Senior Citizen Groups.

8. Monitoring the dynamic changes taking place in the medical environment with the objective of dealing with these changes in the best interest of the membership.

9. Continuing the effective programs of the Commissions and Committees with continued emphasis on sports medicine, continuing education, impaired physician assistance, and resident and student involvement in ISMA affairs.

### Membership

To go over some of these points briefly in more detail, retaining members and attracting new members has to be a major emphasis. With the developing Resident and Student Societies, the ISMA is establishing a source of fresh, invigorating membership and leadership. The growth and interest of these two groups in the past year have been excellent.

Though the figure is not exact, we know there are close to 8,000 physicians licensed to practice in Indiana. Of this number, 6,200 are members of the ISMA. ISMA membership has continued to grow, however. In 1978 there were 5,218 members and the figure has grown to the present 6,200.

We are already utilizing the field staff to contact physicians who are not members, with some good results. And we are currently planning a campaign of letter-writing and special promotion to emphasize the advantages and the need for non-member involvement with their dues-paying associates.

The voice of medicine speaks loudest and is heard best when it represents *all* physicians.

### Field Services

It is essential, I believe, to maintain a strong and effective field service

operation. The field service has proven its effectiveness over the years, even though, from time to time, there have been questions concerning the value of such service, because of the lack of an appropriate measuring device to determine its effectiveness. Recently, the need has become obvious through the persistent requests from members to see someone from the state office. Indeed, our present staff are true professionals in helping our members and in representing our interests outside our organization.

### Increasing Supply of Physicians

The increasing supply of physicians and the effect of this growth on our practices have to be a source of concern. Opportunities to increase fees are being limited. Inflation and the progressive tax structure will continue to devour gains in net income. Expenses probably will rise faster than fees. Patients are shopping more and comparing charges. Fee-for-service groups are feeling more intensive pressure from prepaid groups. Third-party involvement in medical practice is likely to increase, and will aggravate the profession's financial problems.

A substantial increase in numbers of physicians relative to the general population is at the heart of the problem. It is estimated the general population will increase 7 to 8 percent by 1990, with a corresponding increase in physician supply of 30 to 35 percent with an addition of 100,000 to 110,000 physicians to the present number. With Indiana's favorable malpractice law, our physicians increase could be greater.

The end result of such trends is more intra-professional competition for patients and we can see it's happening now.

Though it sounds like the drum beat of "gloom and doom," physicians as a group will still do well financially but less well, and less automatically with a higher proportion of outright failures. Many of us will continue to prosper, as is the case with any professional group in a similar situation.

Some of the positive aspects of increasing competition are that physi-



## Address of the President-Elect

cians will be able to spend more time with patients, a luxury not always possible in past years; the art of medicine—the personal healing touch—sometimes lost in the rush to care for great numbers of people, may be revived; some of the pressures of an overly heavy patient load will be eased and, finally, physicians may have more time for themselves and their families.

### Political Education and Involvement

Political education and involvement by members in legislative liaison and contact is a continuing process, with maximum effort a must.

Our practices are time-consuming and many of us do not have the time to be involved in our county and political activities, but our lives are affected by what occurs in the state and national legislatures.

With the competition between many different organizations fighting for support among representatives of these legislative bodies, issues of importance to one group can be lost in the maze, if our legislative representatives are not adequately supported and our voices, speaking forcefully and in unison, are not heard. Together, we must work to elect candidates who respect our professional goals of delivering, economically and efficiently, the best care in the world to our patients. We must ultimately be able to work with whomever is elected. And one of the most effective ways to accomplish this is to contribute to IMPAC and AMPAC, and I shall stress membership in these groups.

As indispensable as they are, our legislative specialists, headed by Rick King, and our donated dollars are no longer enough to be totally effective. Personal legislator contacts by our physician members have become a must. We must be able to count on each of you.

### Communication and Public Relations

In the areas of communication and membership development, the Focus Group interviews initiated during Dr. Knoté's year as president proved to be a fresh, new and beneficial approach

to achieving closer contact and gaining first-hand knowledge of the individual member's point of view on Association programs, activities and new ideas. The interviews involved inviting five or six physicians, selected at random, to meet with officers and representatives of the staff, in an easy, informal exchange of information and ideas.

I hope during my year to reinstitute this program because we need this type of input from physicians, who otherwise might not express or have the opportunity to express their thoughts directly to the officers and staff.

Concerning public relations, we are extremely fortunate to have a competent, knowledgeable and experienced staff to handle these responsibilities.

One of the finest public relations programs to be developed in recent years is the "Healthy, Happy and Wise" program now being aired on a number of television stations in Indiana and Louisville. Premiers in several cities before the series was actually aired evoked praise for ISMA for the high quality production and public education for senior adults.

One of the best definitions of public relations states, "Public relations is the management function which evaluates public attitudes, identifies the policies and procedures of an individual or an organization with the public interest, and plans and executes a plan of action to earn public understanding and acceptance."

It's a textbook definition, and it "hits the nail on the head" as far as ISMA is concerned.

A recent AMA poll indicated that 54 percent of those persons polled agreed with the statement, "Doctors don't care about people as much as they used to." Doctors, themselves, are concerned with their image. Medical liability and malpractice issues, high medical costs, and perhaps even the new competitive market have all taken their tolls on the medical profession and its image. The federal government continues to muddy Medicare regulations and confuse everyone with such bureaucratic jargon as "inherent reasonableness charges."

And so, the medical profession in general and ISMA must wade through all this to "earn public understanding and acceptance."

Basically, it comes down to: If we don't tell our story, somebody else will tell their version of our story. We have to get there first, tell it the best and say it again and again until it starts to sink in. And, that is one of the most challenging, frustrating *and* rewarding aspects of PR: It's a never-ending process.

If we don't make public relations work for us, we will see much more of the medical profession's influence on medical care eroded by the federal government, insurance companies, interest groups and others who have a vested interest in health care.

And remember that the best public relations begins in our offices with our individual patients. That impression is the lasting one and reflects more on the profession than any other effort.

During my term of office, we shall work closely with our traditionally fine ISMA Medical Auxiliary and shall lean heavily on their experience and expertise not only in the fields of public relations but also in political involvement and communication.

### Closer Relationships with the Elderly

Another area of concern is that of the relationship between the physician and the community of elderly patients. The elderly have shown a great concern over their health, along with the rising costs of medical care. The elderly represent a sizeable portion of our population. They are over 30 million strong and about 80% of their group votes. Therefore, they have captured the attention of politicians and have prompted government officials to act over their concerns of health and finances.

The elderly population has experienced a great increase over recent years. Statistics show a considerable growth in the number of the aged projected over the 50-year period from 1980 to 2030. The 65-74 age group expects an 80% increase; the 75-84 age group indicates a 220% increase; and the age 85 and over group projects a

## Address of the President-Elect

280% increase. What is significant from these statistics is that as one grows older more medical care is required and the greater the costs. These facts explain one of the major causes of why health care costs have undergone such a sharp rise in recent years, and should continue to do so.

Therefore, it is essential that the physician grows and works harder with the elderly to improve this relationship. The elderly must be reassured that the physician is on their side and hopes to meet all their medical needs. It is important that the elderly be comfortable and have complete trust in their physician in order to form a good working partnership. Through meetings with organizations such as the Indiana Federation of Older Hoosiers and other statewide agencies, ISMA hopes to form a closer liaison between senior citizens and physicians, and I will continue this effort during my year.

### Headquarters Housing

Currently, ISMA plans to move from its present building to a new location as soon as possible. It has been located in the same building for the past 24 years and has basically outgrown it. There has been a lack of office space as well as parking for quite some time. If we elected to stay at the present location, remodeling and renovation would be necessary. After considering all the possibilities, moving to a new location appears to be the more financially practical device. We are presently looking at leasing office space at Keystone at the Crossing. Such a move would provide better overnight and dining accommodations for our guests as well as easier access to interstate 465.

### Physician Support Services

Over the years physicians have faced a steady erosion of their professional autonomy and control over the practice of medicine. Physicians are now beginning to consider collective action, due to the evolution of full-time paid hospital staffs, implementation of prospective payment systems, cost restraint measures, an attempt by

government to control physicians' practice through the hospital, development of PPOs, HMOs and the alliances of independent hospitals in specific geographic areas.

Therefore, ISMA has been considering whether it should form a union or create a separate entity which would serve as a level of protection should any antitrust charges arise. However, the key problem with unionization is that all of its members must be traditional employees for the union to receive protection under the National Labor Relations Act. Another problem has to do with the fact that there are presently too few salaried physicians in any one locale to warrant collective bargaining.

Due to the absence of these key requirements, ISMA is leaning toward the creation of a specific in-house Physician Support Service program. Additionally, this activity may also be helped in coordinating the provision of financial services, investment services, and practice management services, through broker arrangements with credible outside experts. Such an activity may prove to be especially useful by assisting physicians in resolving claims problems with third-party payors.

Moreover, an in-house operation would not only minimize start-up expenses, but would help ISMA maintain control while linking another valuable membership benefit to the Association.

### PICI

I'd like to review for you a few facts concerning PICI. Physicians Insurance Company of Indiana was formed by the Indiana State Medical Association in 1982 to ensure that Indiana physicians would be able to control their professional liability insurance destiny and receive relevant information concerning the company's operating and management procedures as it pertains to this important insurance protection.

The company was established as a stock insurance company, controlled by Indiana physicians and the ISMA with a physician-dominated board of directors. It has been formed with the assistance of physician-owned in-

surance companies in the neighboring states of Ohio, Michigan and Kentucky. The combined assets of these associated companies has reached \$200,000,000. Yes, PICI is here to stay, financially strong and growing stronger every year.

Moreover, PICI is the only regional medical professional liability company that offers complete property and casualty insurance services at very competitive rates, for Indiana's physicians and various other professionals.

Risk classifications have been divided into six classes, with a newly added class which will include those surgeons who specialize in Obstetrics, Obstetrics/Gynecology and Neurosurgery. Rates are assigned according to each of the various risk classes and includes the 75% surcharge on the premiums for the Patient's Compensation Fund.

To be eligible for coverage with PICI one must be a member of the ISMA; licensed by the Indiana State Medical Licensing Board; practice the majority of the time in the state of Indiana; and meet the company's underwriting requirements.

It should be noted that PICI had a slight increase in rates effective October 1, 1985, which put PICI 2.3% above Medical Protective. However, because Medical Protective does charge an *additional* 5% premium for each member up to five members of a corporation, whereas PICI does not, the overall effect would make PICI about the same or even a little less.

And again, this comparison in price fails to point out all of the fine advantages of our supporting our own company—even if our company's premiums were to become much higher.

Due to these many advantages, it is plain to see why PICI has expanded its number of insureds so rapidly since its formation, with about 1,017 policy holders at this present time. Eventually, it is hoped that PICI will have more insureds than any of its competitors, since it is the only Indiana company that is owned and directed by physicians.

I would be remiss if I did not call your attention also to American Physi-



## Address of the President-Elect

icians Life Insurance Company (APL), our physician-owned company offering life insurance and financial services to ISMA members and their staffs. It too is developing well and has now been licensed in several other states—Michigan, Ohio, Kentucky, Wisconsin and Florida.

### Conclusion

I have offered my thoughts concerning the major, present and future needs of the Association. There are many other areas of concern, of course, which because of time cannot be discussed here, but rest assured that during my year as president, we, mean-

ing the officers, trustees and our blue ribbon staff, will do everything within our power to resolve the problems as they arise and keep the ISMA on a steady course toward its goals and objectives.

## Supplemental Address of the President-Elect

Paul Siebenmorgen, M.D.

I am not going to read the President-Elect's address. You have it before you. There are a couple items that I would like to lift out of that address; but I hope you will take time to read it in its entirety, and I certainly welcome any comments and helpful considerations and suggestions that you can give. We're going to be in this together, working side by side within the next year and I would ask that you do that, please.

First of all, before I get into my address, please let me suggest that you take time to thank Larry Allen for his year of untiring and masterful leadership. It has been something to watch and behold, and we certainly should be very appreciative. I hope, Larry, you will accept those deserved gratitudes expressed to you.

The success of all the proposed points of emphasis and actions in the first couple of pages of my address depend entirely upon wide participation by the doctors of this state, starting with you. So, I hope that you will not allow us to beg for assistance, that you will be there willing, able, and wanting to put your shoulder to the wheel.

As far as membership, the next item, I think it is up to each one of us to tell our own story about ISMA, the things we've been doing, the successes we've had, and what it has done for you in the legislature. It is only by getting the many non-members into our organization that medicine can speak as a solid voice, and not a voice of 50%, or 75%, or 85%, of the doctors, but of 100% of the doctors.

I have a section in my address en-

titled "Political Education and Involvement." I would ask that you take time to read that and do a little personal soul searching as you do. I think if you do, you will get involved, and that is the point!

I want to duplicate Dr. Larry Allen's remark concerning the Auxiliary. We both rely upon them and our mutual bond of effort. We have had a great year with Muriel Osborne and I am looking forward to working with Alfrieda Mackel, whom I'm sure will be a good successor to the fine line of presidents of the medical auxiliary. We're looking forward to greeting you in April when you become president.

Regarding our insurance companies, I don't think that I need to say much about them. The Physicians Insurance Company of Indiana, our malpractice or our professional liability company, is a healthy company with a good track record. It already has over 1100 insured, so when your insurance policies come due, think about PICI. Rewards of belonging to PICI are many and benefit your Association as well as you individually. American Physicians Life Insurance Company is also developed by the doctors and for the doctors in our state. Their financial services, etc., are also very much accepted and you are encouraged to use them.

You know we have, at the present time, many issues, particularly economic and political, facing medicine, and for us many frustrations as we see our profession attacked from many sides. Our traditional practices are changing. In fact, the word *CHANGE* describes the situation. Most of us feel

uneasy with the uncertainty of change, but where there is change, there is also opportunity. We certainly must make every effort to take advantage of these opportunities. When there is change, there are always elements that remain unchanged, or constant, and it is to these points that we must cling. We must not lose our perspective, and we must not lose sight of our goals—anchoring points, as they were, in a stormy sea.

Not very long ago, after delivering a healthy, bouncing baby girl, through a rather long and hard delivery, I heard the mother whisper as I laid that beautiful baby across her tummy, "Thank you, God, thank you." I had heard that before, but suddenly, this time it meant something. I had heard what she was saying. With tears welling up within my own eyes, so I could hardly see, I too prayed a prayer, "Thank you, God, for permitting me to be an extension of Thy hand." The impact, the satisfaction, the joy of having the feeling of being an extension of God's hand was very real to me. I had never felt closer to my Maker. In the next few minutes, as I was completing my task, my mind began to think of other things. I thought of my patient back home who had received a heart transplant at Methodist Hospital this last summer and the cardiologist who is taking care of him with his new heart there; he's one of my babies; I delivered him. And, I thought of my office associate, Dr. Amos. She also is one of my babies; I delivered

CONTINUED ON NEXT PAGE



## Address of the Student Council President, Indiana University School of Medicine

Dean Beckman

Referred to: Reference Comm. 1  
ACTION: Filed

The Medical Student Council has been active in addressing various issues of medical student concerns which include changes in our grading system, changes in student clinical evaluations, and setting up a better network for communication between the medical students at the regional centers for medical education around Indiana and the Indianapolis Medical Center campus. The Medical Student Council this year organized the first-ever orientation for junior medical students to help better prepare them for the transition to the clinical clerkships on the wards. The Medical Student Council has also been involved in improving other communication between medical students, other professional school students and undergraduate students. Additionally, the Medical Student Council plans various social events for the medical student body and the School of Medicine. A freshman orientation party is held annually to welcome freshman medical students. This year the attendance was over 650 people. An annual Christmas dance is our most popular event for the school year, with attendance of over 800 people. These kinds of social events, I feel, help bring medical students together and allow them the much needed release from the

stresses and pressures of medical school. We also enjoy the support and attendance of the Medical Student Deans and many other faculty at these events.

Another important event took place last year. Medical students involved in organized medicine felt a need to set up a more formalized and separate organization to act independently from the Medical Student Council. The Medical Student Council appointed a committee to investigate and make recommendations on this issue. A report was submitted, reviewed and accepted by the Medical Student Council. At the same time the ISMA ad hoc committee chaired by Dr. Bill Beeson accepted this recommendation and strongly supported the formation of the ISMA-Medical Student Society to represent medical student interests in organized medicine. Gordon Hughes, the immediate past student delegate, and I, then the alternate student delegate, formulated a constitution and bylaws. This was done with valuable assistance from the ISMA ad hoc committee and ISMA staff. It was structured similar to the ISMA-Resident Medical Society. In February of 1985 an organizational meeting was held and the proposed constitution and bylaws were approved by the medical students present. The first Medical Student Society officers were elected and 10 more students were nominated and

subsequently appointed to ISMA committees and commissions. In June of 1985, seven medical students from Indiana University attended the annual AMA-MSS meeting, the highest number of students from I.U. ever at a single national meeting. These students participated in campaigning for national offices and involved themselves in the debate of resolutions on the MSS assembly floor. Everyone learned much about organized medicine as well as having a lot of fun. The future goals of the ISMA-Medical Student Society include increasing our active membership, educating medical students about organized medicine, and continuing to increase our involvement on both the state and national levels. Students are also making plans to attend the AMA-MSS interium meeting in Washington D.C. in December.

On behalf of the medical students, I would like to thank the members of ISMA for your support and warmth. I am confident that you will continue to nurture the medical students' interest and growth within this great organization. I would like to offer my personal heartfelt thanks to all those who have been helpful to me. I am personally excited about the future of medicine and much of this comes from your positive influence.

## Supplemental Address of the President-Elect (Continued)

CONTINUED FROM PAGE 89

her. Then I began to think of all the other people that I have had the opportunity to serve and help along life's pathway. Again, I prayed, "Thank you, God, for permitting me to be an extension of Thy hand."

There is not a person in this room who hasn't had that similar feeling of satisfaction, accomplishment and joy, and the feeling of closeness to his

Maker. That is the ultimate in life's experiences and anchoring points, as it were, in a stormy sea.

And though we may deal with them, and indeed we will, by George, *NO* HMO, PPO, IPA, DRG, Big Business, Big Government, or Trial Lawyer will deny me that satisfaction, nor yours either! And, it's that satisfaction and perception that's going to be driving my efforts this coming year. And, it's that kind of satisfaction and perception

that's going to keep you working this coming year, and beyond.

In spite of the issues, the pressures, the problems and the scenarios—yes, we'll take care of our patients, we'll serve our patients, and we'll pursue their interests—in spite of all these pressures. So, I look forward to working with you this coming year. May God bless us all as we seek his guidance while we work together this next year. Thank you.

As we view the changes around us in medicine today, we are acutely aware of the need to anticipate their effect on the viability of our Association. Future planning, membership services, membership recruitment and retention, legislative liaison, and public education are all areas of the Indiana State Medical Association that will feel the impact of the transformations taking place in our profession. This year, the ISMA has taken a look at future planning, both in terms of the internal structure of the organization and how it serves its members, and in terms of housing. A long-term future plan is currently being developed and our Future Planning Committee has completed a housing study.

ISMA, itself, is changing to meet the increased challenges of serving our members. Several new staff members were added and the responsibilities of veteran staffers have been shifted to provide maximum accountability and productivity and to improve communications both internally and externally. The Board of Trustees approved the addition of a third field staff making it possible for ISMA to maintain closer and more frequent contact

with county and district medical societies.

In addition, two legislative assistants were added to the staff. Their work in the Indiana General Assembly greatly increased the Association's ability to research and write legislation, to testify, and to personally contact state legislators and discuss impending legislation. The ISMA Legislative Department also produced a weekly computer generated newsletter on bills being considered by the General Assembly. And, when the legislature adjourned, the legislative department produced a digest of all medical and health related laws passed during the session.

In the interim between sessions, the legislative department is rejuvenating our "key contact" program to improve physician contact with state legislators and with U.S. Congressmen. This will include a workshop this fall for members of the "key contact" program.

At mid-year, several ISMA staff members met to discuss ways to recruit new members and how to retain present members. Some of the topics considered: how to better meet the needs of salaried physicians and

make the Association more attractive to them; membership categories for clinics; direct mail appeals to non members to inform them of the advantages of joining ISMA, and updating the current ISMA recruitment brochure.

An expanded public relations department has made it possible to reinstate our newspaper column, "Your Hoosier Doctor Says"; to develop a radio public service announcement pilot project; to update our publications and develop new brochures; and to carry out our ambitious public education television series for senior adults, "Healthy, Happy and Wise." The three-member public relations staff also is responsible for media relations and for promoting the various activities and programs we sponsor for our members or for the public in general.

All of these programs and activities are designed to maintain ISMA's strength and to promote our association as a recognized advocate for quality medical care while serving the individual needs of our members.

---

### Report of the Treasurer

Referred to: Reference Comm. 1

ACTION: Referred for audit.

George Rawls, M.D., Treasurer

Max Wesemann, M.D. Asst. Treas.

### Reports of Trustees

Referred to: Reference Comm. 1

ACTION: Filed

(Reports were published in the October 1985 issue of INDIANA MEDICINE)

### Report of the Chairman, Board of Trustees

Referred to: Reference Comm. 1

ACTION: Filed

John D. MacDougall, M.D.,

Chairman

(Report was published in the October 1985 issue of INDIANA MEDICINE)

### Report of the Chairman, Executive Committee

Referred to: Reference Comm. 1

ACTION: Filed

Lawrence E. Allen, M.D.,

Chairman

(Report was published in the October 1985 issue of INDIANA MEDICINE)

Referred to: Reference Comm. 1  
ACTION: Filed.

Thank you for these few moments on your busy agenda. I am grateful for them. As a representative of the 2,500 physicians' spouses who are members of the ISMA Auxiliary, I have come to tell you that we share your concerns for the medical profession today.

We are very much aware of the challenges that face you: growing government involvement, myriad alternatives for the delivery of care, competition for patients, increasing threat of malpractice litigation, and we know that these and other factors are combining to change the way medicine is practiced in this country. They are bringing pressures to bear on the medical profession that we have never seen before . . . pressures that are felt throughout the medical community. . . by spouses and families, as well as physicians.

As members of the ISMA Auxiliary, we have no illusion that we can reverse the changes that are occurring. However, as a statewide network of physicians' spouses, we believe that we have a role to play in helping to assure that these changes will not erode the traditions and the values in which you, and we, believe.

We see our role as one of communication, action, and support. Communication to make every physicians' spouse in this state knowledgeable about the issues that surround the changing environment of medicine. Action to ensure that medicine's voice is heard equally with those of others; and support to help physicians and their families withstand the pressures that result from the changes in medicine today.

We are uniquely qualified to carry out these programs. We have a communication network throughout this state through our 38 county auxiliaries. We are able to reach our members, your spouses, with important information tailored to their needs.

Our quarterly publication, *The Pulse*, reaches all 2,500 members with news of socioeconomic issues. Our state officers are provided with AMA publications to keep them knowledgeable. We hold educational sessions at state leadership workshops. Our state board members and committee chairmen take the message to county auxiliary meetings. These communications mechanisms help our members to become knowledgeable . . . but more than that . . . to act knowledgeably. Auxilians want and need to be active participants in telling medicine's story. ISMA Auxiliary members are your best public relations people because we are your most ardent supporters.

The ISMA Auxiliary year is from April to April so this report to you is at our mid-term. My personal concern when I took office last spring was to increase membership in the Auxiliary. Your president, Dr. Allen, graciously invited me to attend the district meetings and tell the Auxiliary story to the physicians and their spouses. I sincerely hope that my three-minute speeches at the district meetings will help to raise the ISMA Auxiliary membership from its current 2,500 members to its potential of 6,300, the membership of ISMA.

Dr. Siebenmorgen, Mr. Foy and I have explored the possibility of ISMA sponsoring an Auxiliary legislative program that would send two auxiliaries from a different county each week to attend sessions of the Legislature and

committee meetings. The auxiliaries would be required to invite their representatives to dinner or lunch and they would be required to report their impressions and observations to ISMA legislative staff. This program was very successful last year in Illinois.

You have heard the words "physician's spouse" throughout this report. Your Auxiliary is experiencing a great change in its membership. We now have many male members in our county, state, and national auxiliaries. These gentlemen are either physicians themselves or the spouses of female physicians. The current freshmen class at the Indiana University School of Medicine is 40% women. Many of our future members will be the husbands of these women physicians. The Auxiliary wants them, needs them, and welcomes them.

Auxilians play many important roles today. We continue to focus on assuring good health in our communities. We continue concerted efforts to raise funds for medical students and schools through AMA-ERF activities. But we believe that we must also direct our efforts to responding to the forces that impact on medical practice today. We are proud that we can stand side by side with you in seeking to protect the values in which we believe.

We thank you for your support, your guidance, your leadership. We could not do our work without it. We ask that it continue so that together the medical profession and all of the medical family will face the challenge of today positively for the betterment of all we seek to serve.



## Report of the AMA Delegation

Referred to Reference Comm. 6

**ACTION: Filed**

The AMA House of Delegates met in Chicago June 16-20, 1985. Your official representation included the delegates, the alternate delegates and your state officers. They were in attendance 100%.

The delegates seated included 296 from state associations, 66 from specialty societies and 9 representing service and military and government agencies, interns and residents.

Your delegates was present at every reference committee and the members testified when appropriate regarding AMA/Indiana positions.

AMA President Joseph Boyle gave an outstanding address at the termination of his one year in office and called for the profession to renew its accountability for standards and practice, to recognize and uphold its responsibilities and to restore the public's confidence in medicine. These points included the elimination of inappropriate utilization and excessive charges and the exercise of professional discipline through effective risk management and peer review.

Professional liability was probably the most widely discussed subject. There were two excellent reports that I feel the delegation should bring to your attention. One, of course, is the Committee on Special Liability and the other was a special Task Force on Liability. The activities of action in this area have to do with education, legislation, defense coordination risk control and quality control. Secondly, an expanded and more specific response to the American Trial Lawyers Association's media blitz was approved. It was felt that the trial lawyers are attempting to discount a malpractice crisis and say that a problem does not exist; they further say that the problem is "bad doctors." During this discussion, Indiana was repeatedly cited and admired for our present law, its status

and the premiums currently in force in our state. We should be proud of this record.

The AMA finances were discussed in detail. The Board of Trustees had requested a dues increase of \$45 in 1986. They pointed out that this is a twelve cents (\$.12) a day increase and said this was necessary for effective representation in Washington, aggressive legal representation of the profession, an increase of a nationwide communication effort, and to find solutions to professional liability. The AMA Board of Trustees prevailed and by voice vote the House did vote to increase 1986 dues to \$375.

Physician supply was openly discussed and it is a subject that has been laid at the AMA's feet in the past. There were three resolutions urging state associations and governments to study their local situations regarding physician supply, and for the AMA to form a task force to study the maldistribution and supply and specifically how it affects quality and costs of care, and a possible dysfunctioning of the market forces.

An increased AMA communication program for the public was previewed; the main issue is that physicians are the patients' best advocate in safeguarding the quality of medical care. A price tag of over \$1 million was earmarked for these programs.

The Indiana precertification form resolution was molded into a Minnesota resolution calling for a uniform form and for developing uniform criteria and study of problems in these areas.

Other items studied by the House were:

1. Joint venturing by the Board of Trustees and the medical staff;

2. National Relative Value Scale (Note that this is *NOT* a national fee schedule);

3. Alcohol and driver problems — It was said that a blood alcohol of 0.05%

per se is thought to be an illegal level of alcohol;

4. Corporal punishment in schools;

5. Reaffirmation of indemnity payment as one method of payment for medical services and, if appropriate and feasible, it is the preferred policy;

6. Voted reservations about DRGs in its relation to patient well-being;

7. Urged *ALL* new systems on health care be appropriately studied and evaluated before being presented by the government or third party payors;

8. Discouragement of smoking; and

9. Titers testing for AIDS in banked blood and blood donors.

In the halls, in private discussion, there was great discussion about the future of medicine's organization and the ability to defend or protect the physician. Unionization came up and was discussed privately although there was no discussion on the House floor regarding this issue.

The election results were of no surprise in major offices; that of President-Elect Coury who was unopposed. The speaker and the vice-speaker were unopposed. On the Board of Trustees some of the incumbents were not re-elected; one was, but there were four new Board of Trustees members elected. Peter Petrich, M.D., was not one of those; Dr. Lukemeyer was unsuccessful in his council run.

In view of these losses in this election, the delegation as well as the state officers have considered some study and investigation into a different approach and perhaps coalition to sponsor capable and outstanding candidates. This will be discussed and reported privately at a later date.

Your delegates participated in all of the proceedings effectively and consider it a pleasure to serve you. If you have questions, please contact a member of the delegation or one of the state officers. — Malcolm O. Scamahorn, M.D., Delegate

## Report of the Resident Medical Society

Referred to: Reference Comm. 2  
ACTION: Filed

The Resident Medical Society began its second year on a strong note after finishing its first year with the first annual "Welcome to the Practice of Medicine in Indiana" program and reception. The program was devoted to the topic of coping with stress during residency training and was highlighted by a standing room-only crowd.

The RMS concentrated on continued growth and reaching its established goals during its second year. The goal of increasing resident representation at the state level was achieved during 1984. Equal representation for resident members was attained on ISMA commissions in the ISMA House of Delegates. Representation was also gained on the ISMA Board of Trustees. However, only a non-voting resident position was created on the ISMA Board. Most importantly, the Resident Medical Society is now recognized for its unique position and membership in the Indiana State Medical Association. Furthermore, resident representatives to these ISMA commissions and the Board have been able to demonstrate the valuable input resident physicians can have on all aspects of medicine, as well as express resident concerns and opinions on the changes occurring in graduate medical education and medicine in general.

Resident opinions and ideals were also represented when changes were proposed in the Indiana medical licensure law last fall. The Resident Medical

Society provided valuable input to ensure that only qualified physicians would be licensed in this state.

The RMS has also been able to achieve increased resident representation during the AMA Resident Physicians Section Assemblies. For the first time, a full contingent of four voting delegates from Indiana attended the AMA Interim and Annual RPS Meetings. The Indiana delegation voiced its concern regarding changes in graduate medical education funding during the assembly.

Another goal of the RMS has been to fill the gaps in the graduate medical education system regarding the economics and management of a medical practice. In this day of alternative health care delivery and aggressive cost-saving measures, training and education for resident physicians in these subjects is essential. To attain this goal, the RMS initiated conducting the AMA "Starting Your Practice" Workshop in Indianapolis with the co-sponsorship of the ISMA. The first workshop was held in the fall of 1984 in conjunction with the first statewide RMS Practice Opportunity Fair. The workshop had 100% enrollment and the fair had 44 exhibitors representing practice opportunities in 46 Indiana counties as well as other states. A second workshop was held in April 1985 and was well attended by ISMA members, who received a substantial discount on the workshop registration fee. In addition to the workshops, the RMS began including

articles and inserts on personal and practice finances in the RMS quarterly newsletter.

The Resident Medical Society sponsored a second annual "Welcome to the Practice of Medicine in Indiana" program and reception on June 26, 1985. Again this year, the major educational focus was coping with stress during the practice of medicine. The excellent presentation on Type A behavior by Diane Ulmer, M.S., from the Meyer Friedman Institute was attended by 168 people, which included 91 physicians. The development of a new comprehensive financial services package for RMS members was also announced during the program. The package was specially designed for the needs of the resident physician with the cooperation of Indiana National Bank.

In conclusion, the RMS has continued to work on increasing resident membership in organized medicine whether through the RMS or a county medical society. During the past year RMS membership has grown over 300% from 1984 membership totals. It is my hope that resident membership will continue to grow and the RMS will achieve all of the aforementioned goals and eventually include all resident physicians in Indiana.

It has been a pleasure to work with the ISMA leadership and ISMA members around the state during the past year and I look forward to our continued cooperative efforts in the year ahead.—Steven G. Lester, M.D., President

## Report of the Editor, Indiana Medicine

Referred to: Reference Comm. 1

### ACTION: Filed

At the end of the third quarter of fiscal year 1984-85 INDIANA MEDICINE was on the sunny side of the budget by some \$33,000. This is the result of a considerable increase in income categories of "Exempt Members Subscriptions," "Journal Advertising Sales," "Journal Advertising Announcements," and "Publication Subsidies." There have also been moderate increases in income due to "Reprint Sales" and subsidies for the CME articles.

Due to a substantial increase in the sale of national accounts, including pharmaceutical advertisements, it has been possible to increase the medical and socio-economic content of each issue. Readability was improved, start-

ing in February, with a change of typeface. Durability and readability was improved by changing to a heavier text paper in March and a heavier cover stock in August.

*Snakeroot Extract*, a Newsletter of Indiana Medical History, which appeared first in 1984, has continued on a quarterly basis to offer illustrated accounts of historical events. Dr. Charles A. Bonsett continues his page of "Medical Museum Notes" and with his special involvement with the Indiana Medical History Committee of the Indiana Historical Society adds his fine and discerning touch to each of these features in medical history. In readership surveys Indiana medical history scores in the upper brackets as one of the best read items in INDIANA MEDICINE.

The year has been distinguished by articles on the protection of children in automobiles. Nuclear Magnetic Resonance and Bone Marrow Transplant have been explained and illustrated. Numerous articles on the specialized intensive care developments both for adults and children have outlined the latest advances.

A highly informative series of short articles has appeared periodically to instruct on the newest developments in dermatology. We have been especially fortunate in obtaining several well edited Clinical Pathological Conferences, all of which have demonstrated that an excellent CPC is one of the best educational exercises in medical teaching.—Frank B. Ramsey, M.D., Editor

## Report of Physicians Insurance Company of Indiana

Referred to: Reference Comm. 4

### ACTION: Filed

This past eight months has been an excellent growth period for PICI. We now have 1,017 physicians insured, which we are extremely happy about. The following comparison reflects the eight months of 1984:

LINE OF BUSINESS	PREMIUM 1985	VOLUME 1984	% OF CHANGE
Professional Liability	\$1,353,538	\$658,680	+ 105%
Other Lines	204,726	103,510	+ 98%
	\$1,558,264	\$762,190	+ 105%

As of June 30, 1985 the assets of the company had increased to \$4,536,379 as compared to \$3,790,071 a year prior.

The continued steady growth of the company has been exceptional considering the competitive climate that

PICI must operate in. In Auto, Homeowners and Office Protection coverage, we are also maintaining substantial growth pattern in these lines.

The rate situation has maintained a stable level in the state for a number of years, contrary to what is happening in the nation. Rate increases in the 30% to 40% range are commonplace, with the 70% to 100% occurring in certain parts of the country. Recently, we started to see a downturn in the experience in Indiana which has been evident by the continued increase being promulgated by the Indiana Patients' Compensation Fund. The current surcharge is 75% with the possibility it will go to around 100% sometime in

1986. This trend has continued for most of the writers of professional liability insurance. To maintain its financial stability, PICI filed a 17.3% statewide rate increase effective Oct. 1, 1985. Some classes of physicians will vary from this amount either upward or downward. PICI continues to monitor those trends in order to maintain the stability in this market that the physicians of Indiana deserve.

I and the members of the Board of Directors of Physicians Insurance Company of Indiana express our thanks to the leadership of the Indiana State Medical Association for its help and continued support.—Martin J. O'Neill, M.D., President and Chairman of the Board



## Report of American Physicians Life Insurance Company

Referred to: Reference Comm. 4  
ACTION: Filed

Organizations and individuals associated with American Physicians Life Insurance Company were deeply saddened early this year by the sudden death of Arvine Popplewell, M.D., chairman of the company and a long-time leader of the Indiana State Medical Association. "Pop" provided a steadying and enlightened guiding hand during the early years of the company and his many contributions will be long remembered.

Newly elected to the Board is Paul Siebenmorgen, M.D. Dr. Siebenmorgen will prove a valuable edition to the company and will provide Indiana physicians and the ISMA with appropriate representation and leadership.

Donald S. Chamberlain, M.D., South Bend, a member of the APL Board of Directors since formation of the company, was elected chairman of the board to succeed Dr. Popplewell at the company's regularly scheduled board meeting in March, and at the annual shareholders meeting in May was elected chairman for the coming year.

APL, a result of the merger of PICO Life Insurance Company and Indiana Physicians Life Insurance Company in early 1983, continues to show excellent progress. The company now serves physicians and other professional au-

diences in Indiana, Ohio, Kentucky, Michigan and Wisconsin, and recently was licensed in Florida.

One of the first life companies to offer a Universal Life plan, APL now has five distinctive "Lifestyle" contracts, each designed to meet specialized financial needs of professional persons. APL also provides disability income products and has established a full service pension department. Major emphasis is placed on the utilization of APL products to meet the financial planning needs of physicians which has become so critical in regard to changing tax laws, investment values and retirement strategies.

For calendar year 1985, APL recorded life and health premiums of nearly \$10 million, and concluded the year with more than \$25 million in assets. Life insurance in force is rapidly approaching the half billion dollar mark.

APL also provides sponsored group insurance plans for members of the Indiana State Medical Association, and state medical associations in Kentucky and Wisconsin. These plans include low-cost group term life, available on an individual or corporate basis, Group IRA contracts and hospital confinement protection.

APL is uniquely structured to effectively meet the financial services needs of physicians. It is a subsidiary of

Physicians Investment Company, which is owned and controlled by physicians in the states in which it now conducts business. Physicians, representing each of the states including our own Alvin Haley, M.D. of Indianapolis, dominate the board of directors and give direction to a professional insurance management team. Dr. Haley has been actively involved in the holding company since its origin and has ably represented the ISMA and the Indiana stockholders while serving on this Board. Physicians Investment, in turn, is part of a network of subsidiary and associated companies led by Physicians Insurance Company of Ohio, and including medical professional liability insurance companies operating in Ohio, Kentucky, Indiana, Michigan, Wisconsin and Florida. Collectively, these companies provide various forms of insurance protection to approximately 18,000 physicians and physician corporations and partnerships.

The capability of APL to provide a growing array of innovative and essential financial services to physicians, particularly during this period of rapid change and heavy financial pressure in the health care industry, offers the company strong opportunities for continued growth and progress. — Donald S. Chamberlain, M.D., Chairman of the Board

## Reports of Commissions

**ACTION:** All reports filed.

### Constitution & Bylaws

**Referred to:** Reference Comm. 2

It was necessary for the Commission on Constitution and Bylaws to meet only once during the year. There was broad participation of the commission members. Of course, the able assistance of our staff members was most helpful and indispensable. There were 11 resolutions approved by the 1984 House of Delegates that were referred to our commissions. When resolutions specify explicit language to amend the bylaws, our task is quite simple. However, some resolutions contained only broad concepts that could be misinterpreted when attempting to formulate specific language for implementation. Others were felt to change policy only and truly did not require specific bylaws amendments. The latter were referred back to the Board of Trustees, who are the custodians of ISMA policy.

The commission submits resolutions to the ISMA House of Delegates, which specifies appropriate language in order to amend the bylaws in accordance with the broad directives of the resolutions approved by the 1984 House of Delegates that deal with bylaw amendment. This commission strongly feels that the House of Delegates *must* retain ultimate authority and responsibility for every word contained in the Constitution and Bylaws. The Commission on Constitution and Bylaws is the custodian of the most important document that truly is the very essence of any organization. The commission members serve to keep it apace of current practices, concepts and ideologies of the organization and should advise the leadership and the general membership when and where amendments may be appropriate or necessary. The responsibility of the commission members should not exceed an advisory capacity.

Though cumbersome it may seem, your commission feels this is the most democratic method of protecting the in-

tegrity of the Constitution and Bylaws and avoiding confusion and self-contradiction. To avoid this dilemma in the future, it is the advice of the Commission on Constitution and Bylaws that it convene a short time prior to any annual convention for the purpose of considering new resolutions which may require amendments to the Constitution and Bylaws. The commission would then be prepared to submit appropriate amendment(s) to the House once the latter approves the primary resolution. Your current Commission on Constitution and Bylaws is scheduled to meet on Oct. 27, 1985 for this purpose. We feel this will expedite the duties of this commission and maintain the clarity and integrity of our Bylaws, of which we are very proud.

I wish to thank, again, the many members of this commission, as well as Mr. Ken Badger and Mr. Ron Dyer for their dedicated efforts and participation. A special word of appreciation and commendation is in order for Dr. Lana Patch for her faithful attendance representing the Resident Medical Society.—Lloyd L. Hill, M.D., Chairman

### Medical Education

**Referred to:** Reference Comm. 4

The ISMA Commission on Medical Education met on Nov. 4, 1984 and April 21, 1985 while its Subcommittee on Accreditation met on Nov. 4, 1984 and April 20, 1985. Dr. Shokri Radpour was named vice-chairman of the commission, Dr. Eugene Gillum chaired the subcommission, and Dr. Kelly Chambers was appointed vice-chairman of the subcommission.

The major activity of the commission and subcommission has been that of accreditation/reaccreditation of hospitals and organizations for providing continuing medical education. During the year there were 10 hospitals and four organizations reaccredited for CME. There were three hospitals and one organization which were granted initial accreditation. One organization had its reaccreditation deferred. In total there

were 19 accreditation actions during the year.

The commission and its subcommission held their third annual workshop on April 20, 1985. This workshop was directed to DMEs, site surveyors, chiefs of hospital medical staffs, administrators and other education ancillary personnel. The purpose was to familiarize all persons dealing with CME in Indiana hospitals with the presurvey questionnaire, essentials and site survey process. This was a most successful workshop. National guest participants were Rafael Sanchez, M.D., the immediate past chairman of ACCME and Frances Maitland, assistant secretary of ACCME.

The ISMA is to be site visited by the Committee for Review and Recognition of ACCME in 1986. The commission and subcommission are preparing for this and expect continued recognition as an accrediting organization for institutions (hospitals) and organizations for intrastate CME. Prior to this visit the ISMA should have an accredited unit such as the Section of DMEs/AIDME as a provider of CME.

Both Dr. Gillum and Beckett Shady-King made review and recognition site visits for ACCME. Dr. Gillum participated in the Medical Association of the State of Alabama visit and Ms. Shady-King assisted in the Medical Society of Delaware review.

Upon referral by the ISMA Board of Trustees, the commission reviewed proposed federal legislation affecting the funding of graduate medical education. An ad hoc committee was formed for an in-depth study. A position statement and a resolution were prepared and approved by the commission. These were submitted to the Board of Trustees for its action.

A subcommission-prepared resolution to amend the bylaws was approved by the commission, to be submitted to the 1985 House of Delegates. The amendment is to allow for more than two consecutive term appointments on the same commission.—Franklin A. Bryan, M.D., Chairman



## Reports of Commissions

### Legislation

Referred to: Reference Comm. 3

The 1985 year for the Commission on Legislation has been a long, arduous and exciting experience. The members started meeting prior to the opening of the Legislature to orient those who were new on the commission as well as set a general tenor in our approach to the Legislature. The ISMA headquarters had a tremendous impact upon the Legislative posture for the association. Significantly, Richard King has been promoted to the position of associate executive director, with responsibilities in the legislative arena. Two new staff members have been added—Mr. Greg Bowes, a recent law school graduate, and Ms. Julie Newland, who has worked for the Democratic Caucus of the House of the last four years. Their presence was tremendously important during this past session. By coordinating their day-to-day efforts with Richard King's overall guidance and expertise, it was much easier for the Commission on Legislation to not only anticipate legislation prior to its submission, but also to follow it much more closely as it weaved its way through the legislative channels. We were able to impact at an earlier time in the process as well as participate in the continuing ebb and flow throughout the session.

Approximately 300 bills were tracked by the commission, of which 75 eventually passed the Legislature. Bills from both the House and the Senate were guided through the legislative process which will have tremendous impact on the Medical Malpractice Act of 1975.

HB 1298 added Community Health Centers and Migrant Centers and Health Care Organizations partners to the list of health care providers covered under the malpractice act. This bill allows the insurance commissioner to use money from the Patient's Compensation Fund to purchase services from firms or persons to aid in protecting the fund. It provides that

claims can be paid out twice a year instead of just once. It also allows structured payments over a number of years. This bill also provided that if an individual's defendant, i.e., is a health care provider who specializes in a limited area, at least two of the panelists must be health care professionals who specialize in the same area as the defendant.

HB 1929 raised compensation for the chairman as well as the physicians on the Medical Review panel.

HB 1914 allows the insurance commissioner to raise the surcharge up to 100% if it falls below \$15 million. This bill also allows the patient to bypass the health care review panel if he or she is seeking damages no greater than \$15,000.

SB 443 defined the term periodic payment agreement for the purposes of paying malpractice claims for the contract where the award was paid out over a period of time.

HB 1075 defined a living will. It explained the physician's role and allowed the primary physician the opportunity to remove himself/herself from care if he/she has problems following the wishes of the patient.

ISMA was unable to convince the Legislature not to remove environmental programs from the Indiana State Board of Health.

SB 566 passed that set up an Environmental Department. We were able to retain a position on each of the three boards, i.e., air, water and land.

SB 277 amended Medical Licensing law by requiring a minimum of two years of postgraduate training for foreign medical graduates before becoming eligible for the licensing. It also removed the preceptorship option for foreign medical graduates as an alternative to postgraduate training.

Significantly, it also required that an applicant for license from a U.S. medical school must complete one year of postgraduate training to be eligible for license.

SB 377 requires that physicians keep their records for at least eight years.

SB 17 requires the State Board of Health to set-up a registry to tabulate incidence of cancer for epidemiological

surveys.

Many other bills with impact on the practice of medicine were passed. As you may recall, you were sent a mailing entitled "Digest of Health and Medical Laws—1985 Indiana General Assembly." This is a direct result of the increased staffing that was made available just this past year. With the increased staffing available, we are hoping to provide tracking of voting records as well as being able to anticipate issues and suggested legislation prior to convening of the Legislature.

A great deal of concern is now being directed to our relationship with pharmacists. Pharmacists and other paramedical groups continue to try to impact and infringe upon the practice of medicine. This is being monitored not only legislatively, but also through intraprofessional relations committees and commissions. The legislation commission hopes to keep you involved and enlightened about these situations. They may actually become stepping stones for increasing our intraprofessional relationship with other groups.

The legislation group was involved with the establishment of the Amy Sloan Assistance Project in Lafayette. Amy Sloan allegedly contacted AIDS through a blood transfusion. A bill was submitted to the Legislature to compensate her \$500,000 out the Patients' Compensation fund. The bill would also compensate any patient who contracted AIDS from blood transfusion with a \$500,000 one-time payment from the fund. This bill obviously caused a great deal of comment and concern. It was our position that it was unconstitutional because the bill specifically said there was no malpractice involved. The Patients' Compensation Fund is obviously a dedicated fund.

Consequently, the bill was removed on the House floor and we offered to help establish a trust fund for Amy Sloan, which would be supported from privately donated funds. These funds can be donated by any person or organization that so chooses. This was executed in late spring and early summer of 1985. The monies are to be used to meet medical needs for Ms. Sloan.



## Reports of Commissions

This trust is to continue for a minimum of five years.

The Commission on Legislation held a number of luncheons with legislators throughout the legislative session. It was our feeling that this was much more effective in conveying our concerns about specific bills as well as conveying information on any legislation that might have impact on medical practice.

The Commission on Legislation assumed a much higher profile during the past session and it is our hope to continue that profile in the future.

Once again, liaison with the IMPAC Board was maintained throughout the year of 1985.

Let me say it has been a pleasure chairing the commission this past year. It was my observation that the commission assumed a much more visible position than we have had in the past. It is my hope that we continue to pursue an aggressive, informative participating liaison in the future.—Edward L. Langston, M.D., Chairman

### Sports Medicine

Referred to: Reference Comm. 4

The ISMA Commission on Sports Medicine met regularly during the past year and developed a number of reports regarding sports medicine activities. The commission's recommendation that the IHSAA State Basketball Tournament be scheduled so that teams do not have two games on the same day was tried as a pilot project in 1984, was successful and has become the accepted procedure for all but the semi-finals and finals. A strong statement was made on heat-related illnesses; this has resulted in policies and procedures to be followed for football, cross country, band activities and other related activities throughout the state. These recommendations are being used for many of the major amateur athletic events, including the White River Park State Games and most probably the upcoming Pan American Games.

Two other position papers were

prepared; the first was on the prevention and treatment of head and neck injuries and the second dealt with the safe management of weight loss in wrestlers. We anticipate that these recommendations will be followed by most amateur sports events in Indiana. Of further note was the commission's efforts in the preparation and implementation of a completely new, comprehensive school physical exam form to aid physicians in the adequate evaluation and regular follow-up of young athletes. This form has been piloted and endorsed by IHSAA and should reach most schools in the next year.

The commission is currently working on a number of projects which should have an important impact on prevention of sports injuries. These include eye injuries, boxing, football injuries, lax officiating, and the lack of trained medical personnel at physical contact sporting events. It is anticipated that position statements will be presented to the Board within the next year. It is hoped that a speakers' bureau can be developed that will more adequately disseminate this information to the appropriate audiences (public, coaches, officials, etc.).

The commission prepared and presented an exhibit on its activities at the 1985 Sports Medicine Congress in Indianapolis. It received much attention and interest. Additionally, several commission members participated in the program.

The commission this past year became more directly involved in the provision of medical coverage of athletic events, such as the AUL/Governor's Cup Running Series and the White River Park State Games and will work closely with these and similar events in the future, including the 1987 Pan American Games.

Another new era for the commission was dealing with proposed state legislation. Presentations have been made to the commission regarding the need for a certified athletic trainer program in Indiana. Discussions are being held with various interested individuals and it is hoped that a recommendation can soon be presented to the

Board.

Other issues which the commission has been asked to pursue are drug control and/or drug education, catastrophic medical insurance for athletes, temporary medical licenses and malpractice insurance for out-of-state physicians who treat participants at Indiana amateur athletic events, and the development of an internal roster of physicians "qualified" to treat various athletic injuries.

Lastly, the co-chairmen wish to thank those members of the commission and its technical advisory subcommittee who worked very hard over the past year to accomplish these tasks. Their dedication has aided immensely in Indiana's reputation as a safe place to participate in sports activities.—Ronald Blankenhaker, M.D. and Gary Prah, M.D., Co-Chairmen

### Medical Services

Referred to: Reference Comm. 4

The business of the ISMA Commission on Medical Services involves actions mandated by the ISMA House of Delegates as well as interim issues referred by the ISMA Board of Trustees.

During fiscal year 1984-1985 the Commission on Medical Services has met and acted on a proposal regarding fee review, a school pharmacy proposal to selectively track adverse actions from specified pharmaceutical products, the Blue Cross/Blue Shield "Cost Guard" program, as well as a program to develop statewide blood transfusion guidelines.

Because of the legal implications that surround the whole issue of fee review, the commission has urged the ISMA Board of Trustees to approach the issue with caution and to continue tracking AMA's activities in this area. There does not yet appear to be a formal resolution to this issue; however, we will continue to monitor it. The commission also reviewed the CAPSMED program developed by the School of Pharmacy. The program was designed to selectively track adverse reactions from specified pharmaceutical

## Reports of Commissions

products. The commission has recommended to the ISMA Board that ISMA cooperate in any way possible to assure the success of the program. In reviewing the Indiana Blue Cross/Blue Shield "Cost Guard" program, the commission expressed a desire to caution ISMA members that adherence to third-party "cookbook" medical criteria has no bearing on a physician's potential legal liability. In cooperation with the Indiana Association of Pathologists, the commission reviewed and approved a joint effort by the two organizations to develop blood transfusion guidelines. As of this date, the committee is still meeting. The results of their deliberations will be published at a future date.

I would like to thank the members of the commission who gave generously of their time and efforts.—Michael Mellinger, M.D., Chairman

### Sub-Commission on Insurance

Referred to: Reference Comm. 4

The Sub-Commission on Insurance has been very involved this year in monitoring the members' group health insurance program. The program is operated on a cost-plus basis, with Lincoln National Life being hired to perform part of the administrative functions. The plan is now matured to a point where ISMA members are very close to being self insured. During the year, the sub-commission has been involved in making decisions regarding claims, premiums, underwriting and benefit design. As yet another option available to you, a new plan has recently been created that contains all of the currently popular cost containment measures (e.g., pre-certification approval, mandatory second surgical opinions, etc.). We believe the present selection of available health insurance plans provides ISMA members with a broad spectrum ranging from first dollar coverage to an inexpensive, high deductible plan.

We will continue to monitor the plan's experience and will attempt to make the plans as attractive as is possible.

I would like to personally thank the members of the sub-commission for the diligent attention they have given to a complex topic.—Michael Mellinger, M.D., Chairman

### Public Relations

Referred to: Reference Comm. 5

ISMA's external public relations program targeted a specific audience in 1985—older adults, a group which is growing in number and which increasingly uses medical and health care services. The comprehensive public education television series, "Healthy, Happy and Wise," includes six half-hour programs where were aired over public broadcast stations in Indiana this fall.

Each program featured "real life" senior adults who were selected in a statewide search for positive role models in this expanding age group. The six segments presented useful medical and health information within the theme that one's retirement years can still be enjoyable and productive. Topics ranged from planning for aging, fitness, fears and stress to support relationships, alcohol and drug abuse and high tech medicine. Integrated into the programs, also, were facts on Medicare, Social Security, DRGs, HMOs, PPOs and IPAs—changes that have specific impact on older Hoosiers.

The same topics were used in 30 minute-long feature stories that were offered to commercial television stations for use in newscasts, and again in public service announcements for radio and television.

To follow-up on the information offered through the broadcast media, ISMA provided six brochures, which were available to viewers upon request. All six may be used alone or to supplement the "Healthy, Happy and Wise" programs. The video-taped programs and the brochures remain available for use by civic, fraternal or other community groups and by ISMA members who wish to use them in public presentations.

Throughout production of the

"Healthy, Happy and Wise" series, ISMA received much favorable coverage from local television stations and newspapers around Indiana. More radio, TV and newspaper coverage followed when the programs aired.

The "Healthy, Happy and Wise" series fulfilled several ISMA public relations goals. It provided a view of the physician as the patient advocate; it clearly and concisely informed its audience about the changing medical environment, and it helped reinforce the newly established liaison between ISMA and the Indiana Federation of Older Hoosiers.

While "Healthy, Happy and Wise" dominated much time, the ISMA also undertook another new public information program this year. The Association initiated a pilot radio project to provide medical public service announcements to local radio stations and to provide more visibility for county medical societies. The public service announcements are written by the ISMA public relations staff and are sent to a local physician in each district who tapes the announcement at a participating radio station.

ISMA initiated media visits with the editorial staffs of the *Indianapolis Star* and the *Indianapolis News* to discuss medicine today. ISMA President Dr. Lawrence E. Allen, Chairman of the Board Dr. John D. MacDougall, President-Elect Dr. Paul Siebenmorgen, Executive Director Don Foy, members of the Public Relations staff and I talked with the papers' editors and health reporters. The exchange was beneficial for several reasons. It allowed us to present our views on topics such as DRGs, Medicare, and today's competitive medical environment, among others. We discussed our public education program, "Healthy, Happy and Wise," and other story ideas. The meetings gave us an opportunity to determine the concerns of both papers and their staffs, and they served to introduce the newspaper staffs to our ISMA leadership.

Ongoing public relations programs continue. More than 50 newspapers now carry the weekly "Your Hoosier Doctor Says" newspaper columns. In-



## Reports of Commissions

ternally, *ISMA Reports* and *Mac's Facts* continue to inform our membership of the Association's programs and activities.

The commission selected winners of the Physician's Community Service Award and the Journalism Awards. In addition, the commission cooperated with the Reduce Drunk Driving Committee to select winners of the Reduce Drunk Driving Public Service Announcement contest.

It has been a busy, but rewarding year. I would like to like to extend my appreciation to the members of the Commission on Public Relations and to Adele Lash and Rhonda Roth of the Public Relations Department for their contributions. I would especially like to thank Dr. Randy Lievertz and Dr. Bill Martz and the members of the Ad Hoc Committee on Geriatrics for their assistance in editing scripts for the "Healthy, Happy and Wise" series.—  
R. Adrian Lanning, M.D., Chairman

### Physician Impairment

Referred to: Reference Comm. 5

The Commission on Physician Impairment has been very active in 1985. District commissioners have been outstanding in their participation and attendance throughout the year. The commission felt very positive about the Saturday, April 27, 1985 all-day training symposium wherein a guest national speaker was augmented by presentations from individual commissioners to train physicians and hospital administrators from throughout Indiana, numbering well over 100.

Especially viable and new this year were role playing vignettes presented by the ISMA Commission on Physician Impairment to the attendees, illustrating for them good and bad techniques for handling various impaired physician situations in their local areas.

At one of our commission meetings (generally held every two or three months) we recognized that the ISMA Constitution and Bylaws held a clause we feel is unacceptable, wherein a member in good standing would be immediately dropped from all membership services if he had a probation or a suspension of medical license from the Indiana Medical Licensing Board. In this circumstance we would be dropping from services our colleagues at the very time they need our help the most. A resolution is being presented to the House of Delegates in November 1985 by the ISMA Commission on Physician Impairment requesting that so long as a physician is actively and cooperatively involved with a duly authorized impaired physician committee in the Indiana network, his membership will be sustained past any such action from the Medical Licensing Board.

To further develop the Indiana network for the impaired physician we have established in 1985 psychiatric consultants to the ISMA Commission on Physician Impairment in cooperation with the Indiana State Psychiatric Society. We now have several psychiatrists who participated in the April 27th training meeting in addition to their experience in dealing with problems frequently encountered with impaired physicians. These men have

agreed to volunteer as consultants to local committees to offer their expertise in the identification and management of impaired physician difficulties. Furthermore, we have similar activity developing with recovering MDs, most of whom have been alcohol and/or other substance abusers who are volunteering to be trained as consultants, again to local committees at the hospital or county medical society levels.

The first meeting of midwest state medical societies' Impaired Physician Commissions or Committees was held Sept. 21, 1985 in Chicago. This meeting is envisioned to alternate with the national AMA-sponsored, every-other-year meeting on the Impaired Physician. A majority of ISMA Impaired Physician Commission members attended this excellent meeting.

We have requested and received approval to present the scientific session at the ISMA Annual Convention on subjects pertaining to stress and the impaired physician. We are looking forward to presenting to attendees at the annual convention relevant material both for avoiding stress within ourselves as physicians and helping colleagues who become impaired.

The growth of the Indiana network for the Impaired Physician is going well. The acceptance of the commission's activity by physicians in the state of Indiana seems to be steadily improving. We pledge to continue to pursue the goal of sensitive and effective response and management of those of us who become impaired as a result of our failure to effectively deal with the many stresses of medical life today.—Larry Davis, M.D., Chairman



## Reports of Committees

**ACTION:** All reports filed.

### Future Planning

**Referred to:** Reference Comm. 5

First I would like to again thank my committee members for a job well done. The Future Planning Committee has been quite busy again this year. My committee members have spent many hours in meetings and on the road and I would like to extend my appreciation for time spent.

The first major subject tackled by the Future Planning Committee was that of building facilities for ISMA. This is something that has been studied for the last 10 years and much data was available for the committee and again, many hours were spent looking at all possibilities for our building and the needs of ISMA staff. Our unanimous decision and conclusion is that ISMA has outgrown the present building and additional space is needed if the organization is to continue to function effectively. Several options were considered including adding on to our present facility an additional 5,000 square feet. When all possibilities were considered, it was the opinion of the committee that new quarters should be obtained, preferably a building already in existence that could be purchased by the Indiana State Medical Association, hopefully with enough space to lease some space to other organizations. This was recommended to the Board and met with Board approval. We are currently seeking new facilities.

The second major area discussed by the Future Planning Committee was that of Alternative Health Care Delivery Systems. Again, considerable time in discussion was spent and we feel that this has given insight to the Board considering alternative Health Care Delivery Systems and what the future may hold for physicians in general and ISMA physicians in particular. We hope that additional Board action will bring forth the best possible action for us in the future.

Our next goal as a committee will be to look at the structure and function of ISMA in order to find ways to continue to improve our viability with front-line physicians. We think that the structure and the way information flows is extremely important and we hope to improve this within our organization.—William C. VanNess II, M.D., Chairman

### Medical Education Fund

**Referred to:** Reference Comm. 4

The AMA-ERF provided \$57,179.20 in unrestricted contributions to the Indiana University School of Medicine in 1985. Previous contributions were \$68,244.35 for 1984, \$66,489.88 for 1983, \$59,372.97 for 1982, and \$55,556.83 for 1981.

The Medical Education Fund Committee met on Feb. 13 and June 26, 1985. The investment portfolio performance was reviewed for the prior period. The future anticipated performance of the fund was also reviewed. The American Fletcher National Bank's trust department representatives were very positive about the fund's future growth.

To create a closer working relationship among the committee, the Indiana University School of Medicine, and the officers of the Indiana State Medical Association's Auxiliary, the June 26th meeting was primarily held for the exchange of ideas and discussion of the Fund's structure and operation through the years.

Fund Balance 7-1-84	\$528,049.03
AMA-ERF Contribution	57,179.20
Interest Income	43,591.06
Net Realized Gains	68.75
Trustee Fees	(-2,190.94)
Disbursement to IU Medical Student Assistance Programs—Restricted Grant	(-6,131.54)
Ending Balance 6-30-85	\$620,565.56

—John W. Beeler, M.D., Chairman

### Reduce Drunk Driving

**Referred to:** Reference Comm. 5

The Reduce Drunk Driving Committee met four times during the past year. It has continued to work actively with the Governor's Task Force to Reduce Drunk Driving. The president of Indiana State Medical Association, Lawrence E. Allen, M.D., has met personally with Mr. Stephen Goldsmith during this past year and cooperated with the Governor's Task Force in having the Indiana State Medical Association co-sponsor the HADD conference, a very successful educational conference held for the high school-age people in the state of Indiana.

The Governor's Task Force has expressed its gratitude to the Indiana State Medical Association for valuable input. Because of our involvement, the Governor appointed Dr. Michael B. DuBois, chairman of the committee, to the Task Force.

The Committee to Reduce Drunk Driving has invited colleges and universities within the state to submit radio and television PSAs. The winning PSA in each category will receive a \$200 cash award and will be recognized by the Indiana State Medical Association at its Annual Meeting in South Bend.

The committee would like to thank the ISMA House of Delegates for approving the status of the Reduce Drunk Driving Committee to a standing committee within the ISMA. The committee feels there is more important work to be done, and it appreciates very much the support of the House of Delegates.—Michael B. DuBois, M.D., Chairman

### Medico-Legal Review

**Referred to:** Reference Comm. 3

The Medico-Legal Review Committee met during March of 1985 to discuss the proposed "Medical-Legal Compact of Conduct of the Indiana State Bar Association and the Indiana

## Reports of Committees

State Medical Association." As a result of the meeting, various concerns and comments were forwarded to the Indiana State Bar Association committee chairman regarding the document. The committee is hopeful that a document satisfactory to both organizations can be adopted in the near future.

The committee also reviewed a referral from an Indiana physician regarding what was considered to be the filing of a frivolous lawsuit. It was observed that under Indiana's malpractice law, these cases are required to be reviewed by a Medical Review Panel which should discourage the filing of nuisance claims over \$15,000. The committee believes there is a very significant increase in this type of nuisance suit and plans to evaluate this trend. This coming year we hope to have brought to our attention, and to address, the increasing number of nuisance suits being filed against physicians. This is of particular concern when a suit is filed against every doctor mentioned in the medical records without any attempt to determine whether or not the individual physician named had any part in the alleged malpractice.

The committee continues to be on call to serve the needs of the Association in all matters dealing with medical-legal issues. These are difficult times but Indiana is still blessed with a fine state law.—John Beeler, M.D., Chairman

### Grievance

Referred to: Reference Comm. 5

The Grievance Committee met during 1985 and reviewed approximately five complaints and two miscellaneous matters, most of which have been resolved.

As usual, the lack of good patient communication was the reason for most of the complaints that the committee received. As chairman, I wish to thank the other members of the committee for their attendance and valuable assistance during the year.—G. Beach Gattman, M.D., Chairman

### Negotiations

Referred to: Reference Comm. 5

The Negotiations Committee was not called upon for specific activity this year. In accordance, we had no formal meetings. Many of the committee members have attended multiple negotiation seminars given by AMA staff personnel and other authorities in the area in previous years.

This committee should probably be more active, perhaps meeting on a quarterly basis, in order to assist groups of physicians in local areas with their group or individual negotiations. At the statewide level, we are hopefully some time away from negotiated fee schedules or other medical care blanket negotiations on this large scale.—John A. Knote, M.D., Chairman

### Ad Hoc Malpractice Advisory Committee

Referred to: Reference Comm. 4

The committee monitored the legislation on malpractice and the changes to the Patients' Compensation Fund during the last legislature.

Dr. Charles Rau of Columbus and your chairman served on the Legislative Commission to study the Act and changes which might be necessary due to the depletion of the Patients' Compensation Fund. Various suggestions were made by the Plaintiff's bar, which if adopted would have resulted in a disastrous increase in malpractice premiums. The compromise which was reached retained the cap on the individual health care provider's liability and also the cap on the Patients' Compensation Fund. It was necessary to increase the surcharge on the individual health care provider's premium in order to restructure the finances of the Patients' Compensation Fund. Several changes were made in the Act, some of them at the last minute of passage. Most of these were relatively inconsequential and intended to improve the functioning of the Act.

There were two changes which your chairman feels were most ill advised. The first of these was the decision to permit bypassing of the Medical Review Panel for claims of \$15,000 or less. It is your chairman's opinion that this will lead to a proliferation of non-meritorious suits and inevitably lead to an increased payout from the insurance company which will, of course, be passed on to the health care provider in the form of increased premiums.

The second regrettable decision provided for invasion of the Patients' Compensation Fund when an aggregate of the claims exceeded \$100,000 to the primary carriers.

Both of these latter provisions will require careful monitoring and in the chairman's opinion will require future legislation to correct what will likely prove to be disastrous financial results from these ill-advised revisions.—J. William Wright Jr., M.D., Chairman

### Ad Hoc Committee on Student Representation in the ISMA House of Delegates

Referred to: Reference Comm. 2

Operating on a charge from ISMA President Dr. Larry Allen, the Ad Hoc Committee on Student Representation in the Indiana State Medical Association House of Delegates has worked in conjunction with the I.U. School of Medicine Student Council and the ISMA Student Representatives to organize a formal ISMA-Medical Student Society.

In November 1984, the Medical School Student Council formally abdicated its ISMA responsibilities and duties as set forth in the ISMA Constitution and Bylaws to the Indiana University ISMA Medical Student Society. Gordon Hughes and Dean Beckman (ISMA student delegates) were named as an Executive Committee charged with formulating a constitution and bylaws for the above stated organization. This was performed with the valuable assistance of the

## Reports of Committees

ISMA staff and structured similar to the ISMA-Resident Medical Society.

In February 1985, an organizational meeting of the ISMA-Medical Student Society was held at the ISMA headquarters in Indianapolis. The proposed constitution and bylaws were approved by the medical students present, and the following individuals were elected as the society's first officers: Dean Beckman, student delegate; Eva Fadul, alternate delegate; Doug Zale, council chairman; Bob Flint, council vice-chairman; and Anita Spitz, council secretary-treasurer.

Since February, the ISMA-MSS has been extremely active and has been functioning with staff support and limited monetary support being provided by the Indiana State Medical Association. The following individuals have been appointed to serve on ISMA commissions: Mary O'Connor and Tom Sevier, Sports Medicine; Jon Finley and Charlotte Motz, Legislation; Charlotte Motz and Cheryl McDonald, Public Relations; Cheryl McDonald,

Physician Impairment; Richard Blackburn, Kevin Ault and Bob Flint, Editorial Board.

The ISMA-MSS anticipates submitting formal resolutions to the 1985 House of Delegates meeting in regard to proposed constitutional and bylaw changes affecting student membership within the ISMA and possibly regarding numerical representation for students in the House of Delegates.

As chairman of the Ad Hoc Committee on Student Representation in the ISMA House of Delegates, I would like to thank committee members Herb Khalouf, Paul Siebenmorgen, Lloyd Hill, Peter Petrich, Steve Land, Steve Lester, Past President George Lukemeyer, and President Larry Allen for their assistance. I would especially like to thank Gordon Hughes, Dean Beckman, Todd Taylor, Dr. James Carter and ISMA staff member Rosanna Iler for their many hours of work, dedication, and spirit of cooperation. Without their efforts, there would be no ISMA-Medical Student Society.—William H. Beeson, M.D., Chairman

## Ad Hoc Committee on Geriatrics

Referred to: Reference Comm. 5

The Ad Hoc Committee on Geriatrics interprets its major charge as increasing the communication between our profession and elder Hoosiers and with other health professionals involved in their care.

Under auspices of the Indiana Public Health Foundation, the Indiana State Medical Association was a co-sponsor with Indiana University School of Medicine of a geriatrics medicine seminar on "Community Health Care Initiatives for the Elderly."

The executive director of the Indiana Federation of Older Hoosiers, a representative of Williams/Townsend Insurance Agency, and a director of a local Senior Citizens Center conducted a seminar for the sophomore medical class on the subject of "Care of the Older Patient."

At the invitation of the Commission on Public Relations, the members of the Ad Hoc Committee on Geriatrics have participated extensively in planning, subject selection, script review, etc. for the television series, "Happy, Healthy and Wise."—Bill L. Martz, M.D., Chairman



## 1985 Physician Community Service Award

**David M. Hadley, M.D.**  
**Plainfield Family Physician**

David M. Hadley, M.D., a specialist in family practice in Plainfield, Indiana, was graduated from Guilford College in 1948 and the University of Pennsylvania School of Medicine in 1952. After interning at Charity Hospital in New Orleans, Dr. Hadley served as the Medical Officer in Charge at the Minecraft Navy Base Dispensary in Charleston, South Carolina until 1956.

In the years that followed, Dr. Hadley shared his profession with the people living in the mountains of East Tennessee. He also served as a medical officer in the hospital at Friends Africa Mission in Western Kenya. His service was interrupted only once to begin a residency in general surgery at Truesdale Hospital in Fall River, Massachusetts.

After taking an additional two years of general surgery at Miami Valley Hospital in Dayton, Ohio, Dr. Hadley started his practice in Plainfield. Since



Dr. Hadley and his wife, Ruth.

then, he has been active in his church and in the community.

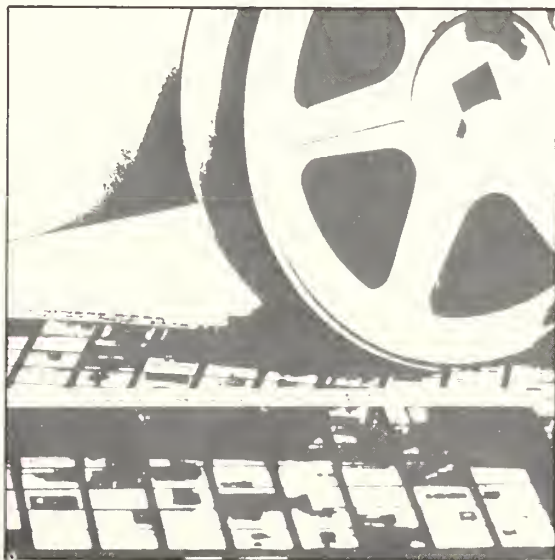
A member of the Plainfield Friends Church, he has chaired many church committees. As president of the Quaker Men's organization, he initiated a project to visit inmates in the Indiana Boys' School.

Serving for many years in the Boy Scouts of America, Dr. Hadley has participated as a Scout assistant, troop committeeman, and chairman of his Scout district. He attended the Scout Jamboree in Pennsylvania.

He has acted as the staff physician for two nursing homes in his community and has served as Medical Director of the Clarks Creek Health Care Center. He has also been instrumental as the team physician of the Plainfield High School football team and has organized school physicals for several years. Dr. Hadley has worked diligently as a member and president of the Hendricks County Unit of the American Cancer Society.

Dr. Hadley and his wife, Ruth, have two children, John Milton and Mary Jane Maraga.

# This Publication is available in Microform.



**University  
Microfilms  
International**

Please send additional information

for INDIANA MEDICINE

Name \_\_\_\_\_

Institution\_\_\_\_\_

Street \_\_\_\_\_

City\_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

300 North Zeeb Road  
Dept. P.R.  
Ann Arbor, Mi. 48106

## Scientific Exhibit Winners

### First Place

#### Atypical Symptoms of Tourette Syndrome

Exhibitor: Donald A. Dian, M.D.

Attendants: Donald A. Dian, M.D., Ruth Ifer, Jane Thompson and Karen Buggele.

Description: Tourette Syndrome is an uncommon condition which presents as multiple ties. The initial presenting symptoms are usually eye blinking, facial grimaces or other ties of the head and neck. Symptoms of Tourette Syndrome usually wax and wane and may be replaced by other symptoms.

It has been recently shown that symptoms which do not fit the usual description as a motor or verbal tic are present in Tourette Syndrome.

This study is a questionnaire survey of 100 patients who were seen in a private practice setting. The objective was to assess the occurrence of these symptoms. The exhibit will present the spectrum of these symptoms both typical and atypical from this private practice sample.

### Second Place

#### Procedure for Staining Fixed Human Brain Slices for Use in Teaching Neuroanatomy

Exhibitors: Susan L. Stoddard, M.D. and Matthew W. Heller

Description: Poor contrast between the gray and white matter of preserved human brain sections, as well as their fragility, make macroscopic examination of the gross morphology of these sections a difficult task. Thus, a technique that enhances the contrast between gray and white substance, combined with permanent fixation of the brain slices, is an invaluable aid to students of neuroanatomy. The described method provides a new technique for differentiating areas of gray and white matter in fixed human brain sections. The technique is modified from Braak (*Stain Tech*, 53:87-88, 1978) to employ the non-fading copper phthalocyanine dye, alcian blue. This dye preferentially stains acid mucopolysaccharides, which are found in the ground substance of the gray matter of the brain. The resulting sections have turquoise-stained gray matter that contrasts sharply with the areas of white matter.

The exhibit features plastic-embedded, stained brain slices. Other instructional aids demonstrate how these stained brain slices can be used by medical students both for the initial identification of neuroanatomical structure and for self-testing.

### Third Place

#### Power Lawn Mower Injuries in Childhood

Exhibitor: Charlene Graves, M.D.

Attendant: Charlene Graves, M.D.

Description: This exhibit consists of photographs of the types of injuries children sustain from power lawn mowers and the results after surgical repair. Information is presented on 15 cases treated at Methodist Hospital between 1978 and 1984. Data obtained from the Consumer Product Safety Commission on this type of injury is also presented. Methods of prevention are also discussed.

This scientific exhibit was presented at the American Academy of Pediatrics Annual Meeting in September 1984 and at several consumer events in Indianapolis. It has received much interest from both health professionals and consumers. Educational pamphlets on prevention of these injuries are also provided as part of the exhibit.

### Michigan City News-Dispatch Print (Series)

The combined effort of five members of the *Michigan City News-Dispatch* led to the award for best print series.

The entry, "Crises in Health Care," was praised by ISMA Public Relations Commission members as being "well coordinated, well written and informative in covering the current health scene."

Reporters Henry E. Lange, Rick Richards, John Lundy, Tim Zorn and Greg Kline spent four months researching health care issues and problems not only on the federal level, but in LaPorte County as well. The articles focused on rising health care costs, the problems in the Medicare system, as well as the financial struggle of hospitals.

### Debby Knox Television (Single Story & Series)

Submitting two excellent entries, Debby Knox of Indianapolis' WISH-TV is the winner of both the single story and series categories.

This is the second consecutive year that Knox has won in the single television news story category. Her report discussed a new drug called magnetic microspheres and how it is being used in the battle against cancer.

In the TV series category, Knox won with her 30-minute documentary entitled "Roger 9." Also recognized were Channel 8 staffers, David Overton and William Fisher. "Roger 9" focused on Roger Craycraft of South Bend, who was the ninth person to receive a heart transplant at Methodist Hospital in Indianapolis. The documentary followed Craycraft in his fight to get a donor heart, through surgery and into his recovery.

A native of Michigan, and a graduate of the University of Michigan, Knox currently co-anchors the early and late evening casts. She is also WISH-TV's "HEALTHSCENE" reporter.

Since joining Channel 8 in 1980, Knox has won several awards for her medical reporting. In 1984, she won the



AWARD WINNERS—From left, Tim Johnson, Mary Beth Moster, Rick Richards and Debby Knox.

Hoosier Heartbeat award for covering a press conference held by various medical associations to criticize advertising policies of the smoking industry. She also won ISMA's Journalism Award with an entry entitled, "The Benefit of Aerobic Exercise." The story was a study of how aerobic exercise can strengthen the heart muscle significantly if performed correctly.

### Tim Johnson Radio

Tim Johnson, assistant news director of Indianapolis radio station WTLC, is a four-time winner of ISMA's Journalism Award. His entry this year discussed breast cancer in a series of radio reports. The series explored the incidence of breast cancer, and the problems and challenges patients and their families must face.

His past ISMA award-winning stories addressed environmental and socio-economic conditions in relation to cancer, juvenile alcoholism and a follow-up of that series.

A native of Indianapolis, he has also received two Casper Awards, an Associated Press, and a United Press International Award for his reporting.

Johnson's medical knowledge stems from his experience as a medical technician as certified by the National Registry and the State Emergency Medical Services Commission.

### Mary Beth Moster Print (Single Story)

Free-lancer Mary Beth Moster of Lebanon, Indiana, was praised for her article, "The Overcomers," for showing great "insight into human tragedies and how they can be whipped."

Moster's article, published in *INDIANAPOLIS MAGAZINE*, told the story of five people who had faced physical difficulties, endured hardships and overcame the obstacles that seemed overwhelming. Her article illustrates the profound influence that desire and determination can have on a person's ability to cope with a catastrophic illness or disabling medical condition. The result is a testament to the triumph of the human spirit. The five individuals mentioned in the piece overcame remarkable odds to lead productive, full lives.

As a part-time instructor at the Indiana University School of Journalism at Bloomington and Indianapolis, Moster has also found time to write three books: *Living With Cancer*, *When Mom Goes to Work*, and *The Valley Is Bright*.

She has also been successful in publishing over 100 of her articles in such publications as *The Cincinnati Enquirer Magazine*, *Girl Talk*, *The Louisville Courier Journal*, *Moody Monthly* and *Trailer Life*.





# AUXILIARY REPORT

Muriel Osborne (Mrs. John)  
ISMA Auxiliary President 1985-86

- Confluence was a totally enriching three-day experience.

- It was great to have the opportunity to see first-hand what a large group of enthusiastic auxiliaries can do working together.

- We would never have a problem with membership if more members had the opportunity to attend Confluence.

- The meeting was very well organized and everything ran on time."

These were typical comments of the nine Indiana county presidents-elect who attended the AMA Auxiliary Leadership Confluence at the Drake Hotel in Chicago October 6-8.

This outstanding AMA Auxiliary meeting for more than 250 county presidents-elect, state presidents, state presidents-elect, state membership chairmen and national board and committee members focused on leadership training and health issues with 12 break-out sessions conducted by national speakers who are experts in their respective fields.

A membership workshop was conducted by Carol Benjamin, director of Marketing and Communication at the National Association of Business and Education Radio. Membership problems were addressed, each auxiliary had input at round table discussions, and all ideas were efficiently summarized.

Sharing time for exchange of ideas was a favorite part of the program for several Indiana delegates. Ample opportunity was provided in sessions divided according to the size of auxiliaries, at meal time with assigned seating, at "rap" time with the Hoosier delegation in the Indiana suite, at the State Exhibit Walk where each state had a poster on health projects, and at the AMA Auxiliary Resource Center where samples of all material available to all auxiliaries from the AMA Auxiliary were displayed.



AT CONFLUENCE—Front row, from left: Joann Orman, Genelle King and Geraldine Barclay. Back row, from left: Marilyn Kreuger, Virginia Buehner, Carole Wainscott, Barbara McConnell, Jane Thompson and Tamara Black.

Several Indiana auxiliaries were especially impressed by the guest speakers and purchased audio cassettes of their talks for further study. One outstanding guest speaker was Francis G. Edwards, senior vice-president of Louis A. Allen Associates, Inc. of Palo Alto, Calif., who discussed "Leadership Strategies." About another guest speaker, Dr. Harrison Rogers, president of the AMA, one auxiliary notes, "I was thrilled to be able to hear Dr. Rogers speak in such an uplifting manner during such trying times for physicians. I now realize that our husbands' strength is truly in unity and the AMA is it."

- I felt immediate rapport with the other medical auxiliary women. We shared ideas, inspirations, and involvements.


- The new friendships that were formed plus the valuable information I received through attending seminars and through sharing concerns and ideas with others will be most helpful

tools in my continued work in our auxiliary.

- I now realize what a federation of national, state, and county auxiliary means and how we help and need one another.

These were the evaluations of Confluence from the Indiana county presidents-elects attending.

They were: Geraldine Barclay, Elkhart County; Tamara Black, Clark County; Virginia Buehner, Owen-Monroe County; Genelle King, St. Joseph County; Marilyn Kreuger, Vanderburgh SW County; Barbara McConnell, Delaware-Blackford County; Joann Orman, Vigo County; Jane Thompson, Allen County, and Carole Wainscott, Marion County. Also attending from Indiana were: Judy Koontz from Knox County, member of the Long Range Planning Committee of the AMA Auxiliary; Muriel Osborne, president; Alfrieda Mackel, president-elect, and Anne Throop, Membership chairman of the ISMA Auxiliary.—Alfrieda Mackel, President-elect

A black and white reproduction of Michelangelo's famous fresco, "The Creation of Adam," showing the hands of God and Adam reaching toward each other.

# Leave your mark on life.

You don't have to move mountains to make a difference on this earth. Or be a Michelangelo to leave your mark on it.

Leaving even the smallest legacy to the American Cancer Society can help change the future for generations to come. By including the American Cancer Society in your will, you'll be leaving a loving and

lasting impression on life.

You see, cancer is beatable. The survival rate for all cancers is already approaching 50% in the United States.

You'll be giving a gift of life to the future. And giving life is the greatest way of leaving your mark on it.



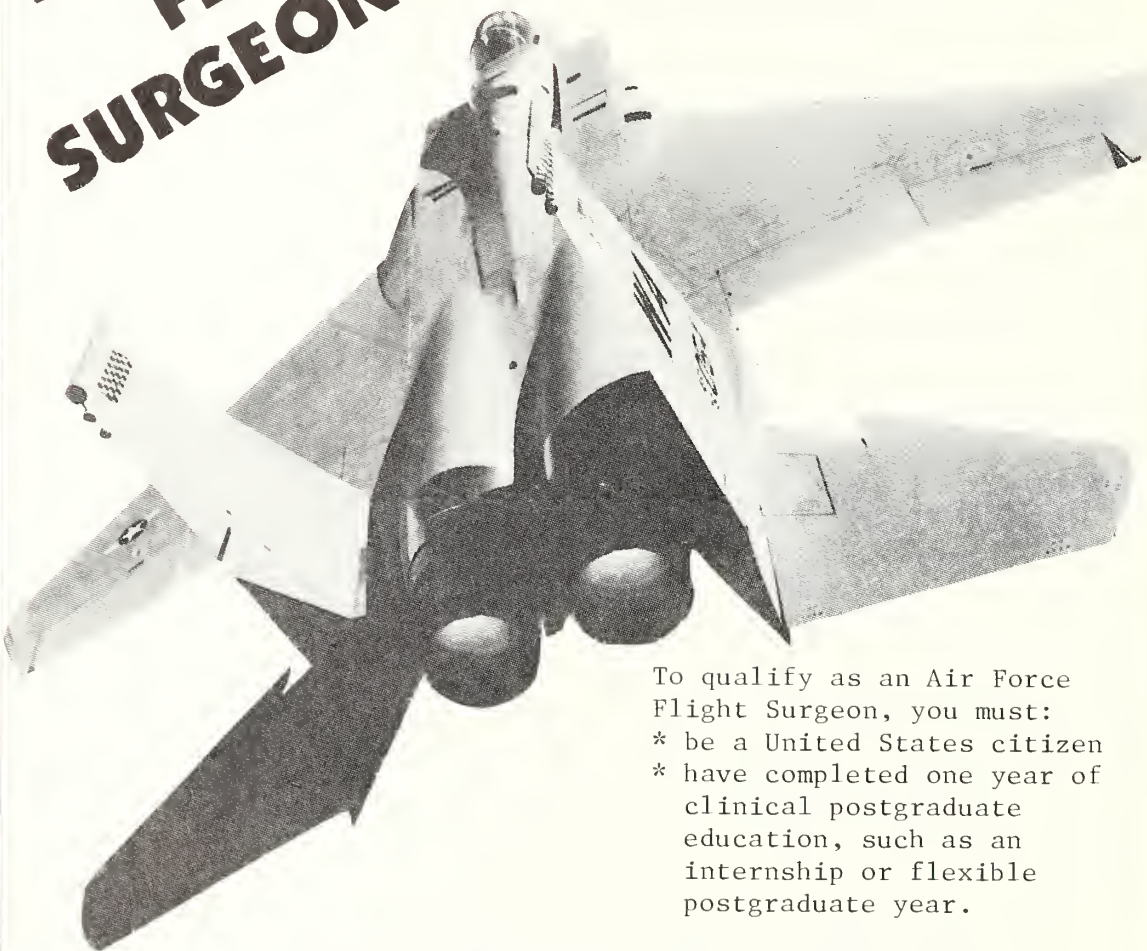
For more information, call your local ACS Unit or write to the American Cancer Society, 4 West 35th Street, New York, NY 10001.



# THE AIR FORCE FLIGHT SURGEON

As an Air Force Flight Surgeon you will have a truly general practice in your office. In the air you'll fly with and observe air crew members — adding a new perspective to your medical career.

Without the headaches of office overhead and paperwork, with 30 days of vacation with pay each year, with time for your family, with medical and dental care, low cost life insurance, and a generous non-contributory retirement program. Maybe it's about time to give your life a new perspective.



To qualify as an Air Force Flight Surgeon, you must:

- \* be a United States citizen
- \* have completed one year of clinical postgraduate education, such as an internship or flexible postgraduate year.

APPLICATIONS ARE BEING ACCEPTED NOW

Contact: Captain Scott Simpson  
47 S. Pennsylvania, Suite 2  
Indianapolis, IN 46204  
(317) 269-6164/6354  
Outside area call collect

**AIR**  
**FORCE**

A great way of life.



# CME QUIZ

TO OBTAIN ONE HOUR OF CATEGORY 1 AMA CME CREDIT, answer the following questions by circling the correct answer on the answer sheet below. Complete and clip the application form and mail it to: Indiana University School of Medicine, CME Division, Fesler Hall 224, 1120 South Dr., Indianapolis 46223.

## Carcinoma of the Endometrium

CONTINUED FROM PAGES 13-17

1. Increased incidence of endometrial carcinoma in post-menopausal women is known to be associated with the use of which one of the following agents?
  - a. Progestational agents
  - b. Estrogens
  - c. Diazepam
  - d. Extension of the tumor
  - e. Studies have shown postoperative radiation therapy to be more effective in controlling local regional recurrence.
2. Which of the following factors are considered to be of prognostic importance in the endometrial carcinoma?
  - a. FIGO staging of the tumor
  - b. Histologic grade of the tumor
  - c. Depth of myometrial invasion
  - d. All of the above
3. Most common site of failure in endometrial carcinoma following surgery is?
  - a. Lungs
  - b. Vaginal cuff (vault)
  - c. Liver
  - d. Regional Lymph nodes
4. Which of the following factors are considered in the FIGO staging of endometrial cancer?
  - a. Size of the uterine cavity
  - b. Histologic grade of the tumor
  - c. All of the above
5. Which of the following subgroups of patients with endometrial cancer will be best served by surgery alone?
  - a. Stage IA, grade I
  - b. Stage IA, grade III
  - c. Stage III, grade I
  - d. Stage II, grade I
6. Postoperative radiation therapy is preferred due to which of the following advantages?
  - a. Better tolerated by the patients
  - b. Allows more accurate staging of the tumor
  - c. Pathology of the tumor is preserved
  - d. Allows the radiation oncologist to tailor radiation therapy according to the information obtained from surgery
7. Incidence of vaginal recurrence following surgery for endometrial carcinoma has been reported to be?
  - a. Between 5-20 percent
  - b. 20-25 percent
  - c. 25-30 percent
8. Incidence of vaginal recurrence is noted to be high in which of the following subgroup of patients?
  - a. High grade histology
  - b. Superficial myometrial invasion
  - c. Deep myometrial invasion
  - d. Uterine cavity less than 8 cm.
9. Radiation therapy as an adjuvant is indicated in which of the following stages of endometrial carcinoma?
  - a. Stage I, grade III
  - b. Clinical stage II
  - c. Stage III involving ovary and/or fallopian tube
  - d. Symptomatic Stage IV disease
10. A five-year survival rate following curative radiation therapy in stage I medically inoperable patients is shown to be?
  - a. 60-75 percent
  - b. 90-95 percent
  - c. less than 20 percent

## DECEMBER CME QUIZ Answers

Following are the answers to the CME quiz that appeared in the December 1985 issue: "Oncogenes and the Molecular Biology Revolution in Cancer Research," by Asok C. Antony, M.D., and Ronald Hoffman, M.D.

- |      |       |
|------|-------|
| 1. e | 6. a  |
| 2. f | 7. g  |
| 3. c | 8. d  |
| 4. f | 9. e  |
| 5. e | 10. e |

Answer sheet for Quiz: (Carcinoma . . .)

- |            |            |
|------------|------------|
| 1. a b c   | 6. c d e   |
| 2. a b c d | 7. a b c   |
| 3. a b c d | 8. a b c d |
| 4. a b c d | 9. a b c d |
| 5. a b c d | 10. a b c  |

I wish to apply for one hour of category 1 AMA Continuing Medical Education credit through the I.U. School of Medicine. I have read the article and answered the quiz on the answer sheet above. I understand that my answer sheet will be graded confidentially, at no cost to me, and that notification of my successful completion of the quiz (80% of the questions answered correctly) will be directed to me for my application for the Physician's Recognition Award of the American Medical Association. I also understand that if I do not answer 80% of the questions correctly, I will not be advised of my score but the answers will be published in the next issue of INDIANA MEDICINE.

Name (please print or type)

Address

Identification number (found above your name on mailing label)

Signature

To be eligible for this month's quiz, send your completed, signed application before Feb. 10, 1986 to the address appearing at the top of this page.

# ***PHYSICIANS' DIRECTORY***

## **CARDIOLOGY DIAGNOSTIC AND INTERVENTIONAL**

**WILLIAM K. NASSER, M.D.**

**MICHAEL L. SMITH, M.D.**

**DENNIS K. DICKOS, M.D.**

**CASS A. PINKERTON, M.D.**

**JOHN D. SLACK, M.D.**

**JAMES W. VAN TASSEL, M.D.**

**CHARLES M. ORR, M.D.**

**JANE HOWARD, M.D.**

CARDIOLOGY AND CARDIAC CATHETERIZATION  
ECHOCARDIOGRAPHY  
EXERCISE STRESS TESTING  
CORONARY ANGIOPLASTY  
NUCLEAR CARDIOLOGY  
PACEMAKER SURVEILLANCE  
HOLTER MONITORING

### **ST. VINCENT PROFESSIONAL BUILDING**

**SUITE 400**

**8402 HARCOURT ROAD**

**INDIANAPOLIS, INDIANA 46260**

PHYSICIAN  
REFERRAL ONLY

TELEPHONE (317) 875-9316  
(TOLL-FREE) 800-732-1482  
(TOLL-FREE) 800-CHD-PTCA  
DAY OR NIGHT

# PHYSICIANS' DIRECTORY

## COLON AND RECTAL SURGERY

W. M. KENDRICK, M.D.  
G. A. DONNALLY, M.D.  
R. JAMES WILSON, M.D.  
W. E. KELLEY, M.D.  
RICHARD L. STOUT, M.D.

Certified: International Board of Proctology

Practice limited to Colonoscopy,  
Treatment and Surgery of Rectal Diseases

Kendrick Memorial Hospital, Inc.  
Mooresville, Indiana  
Tel: 317-831-9300

(JCAH Accredited)

## PLASTIC SURGERY

AMBULATORY SURGERY FACILITY  
1944 N. Capitol Ave. Indianapolis 46202

"An office surgery facility"

HAROON M. QAZI, M.D., F.A.C.S.

Diplomate, American Board of Plastic Surgery

Phone: 317-923-4822

317-926-3466

A space this size in the Physicians' Directory costs only \$120. Even a notice this size will serve to provide referrals for the next 12 months.

## ALCOHOLISM TREATMENT



### Individualized Treatment for Alcoholism/Drugs

Men — Women — Adolescents

Michael Chadwick, M.D.  
David Gregory, M.D.  
Koala Center  
2223 Poshard Drive  
Columbus, Indiana  
(812) 376-1711

John Krueger, M.D.  
Koala Center of  
St. Joseph's Hospital  
700 Broadway  
Fort Wayne, Indiana  
(219) 425-3825

John Saalwaechter, M.D.  
Koala Center  
1711 Lafayette Avenue  
Lebanon, Indiana  
(317) 482-3711  
and  
Koala Adolescent  
1404 S. State Avenue  
Indianapolis, Indiana  
(317) 783-4084

Daniel Kubley, M.D.  
Koala Center  
1800 N. Oak Road  
Plymouth, Indiana

Indiana Toll-Free  
24-Hour HELPLINE  
1-800-622-4711

### OUTREACH OFFICES

Bloomington  
Clarksville  
Hammond  
Indianapolis  
Marion  
Richmond



# PHYSICIANS' DIRECTORY

## CARDIOLOGY

### INDIANAPOLIS CARDIOLOGY ASSOCIATES, INC.

Robert E. Edmands, M.D.  
Samuel M. Hazlett III, M.D.

Abdel A. Zeni, M.D.  
Don B. Ziperman, M.D., F.A.C.C.

CARDIOLOGY AND CARDIAC CATHETERIZATION  
ECHOCARDIOGRAPHY  
EXERCISE STRESS TESTING  
CORONARY ANGIOPLASTY  
PACEMAKER SURVEILLANCE  
HOLTER MONITORING

1315 North Arlington Avenue  
Suite #100  
Indianapolis, Indiana 46219  
(317) 359-3501

*PHYSICIAN REFERRAL ONLY*

1500 Albany Street  
Suite #912  
Beech Grove, Indiana 46107  
(317) 786-9211

## PERIPHERAL VASCULAR SURGERY

## ALCOHOLISM TREATMENT



VASCULAR SURGERY, INC.

AUSTIN L. GARDNER, M.D., F.A.C.S.  
MALCOLM B. HERRING, M.D., F.A.C.S.  
DANIEL R. LEGRAND, M.D., F.A.C.S.  
DAVID L. MADISON, M.D.

8402 HARCOURT ROAD, SUITE 613  
INDIANAPOLIS INDIANA 46260  
OFFICE HOURS BY APPOINTMENT  
TELEPHONE (317) 872-4129  
OR  
800-662-5367  
8 a.m.-5 p.m. only  
Monday-Friday

## Douglas Bullington, M.D.

Program Director



### COUNTERPOINT CENTER

at Valle Vista Hospital  
898 E. Main Street  
Greenwood, IN 46142  
317/887-1348

- Free evaluation and intervention
- Adult & Adolescent Treatment Services
- 24 hours-a-day

# PHYSICIANS' DIRECTORY

## INTERNAL MEDICINE

### NEPHROLOGY & INTERNAL MEDICINE, INC.

Thomas Wm. Alley, M.D., FACP    Theodore F. Hegeman, M.D.  
George W. Applegate, M.D.    Douglas F. Johnstone, M.D.  
Charles B. Carter, M.D.    Wendy L. Kindig, M.D.  
William H. Dick, M.D., FACP    LeRoy H. King, Jr., M.D., FACP  
Mary A. Margolis, M.D.

1801 N. Senate Blvd, Suite 355, Indianapolis 46202  
Tel: 317-924-8425

By Physician Referral

Answering Service 926-3466

CLINICAL NEPHROLOGY, RENAL TRANSPLANTATION, HEMODIALYSIS, PERITONEAL DIALYSIS, HYPERTENSION, FLUID AND ELECTROLYTE IMBALANCE. CRITICAL CARE.

**MERIDIAN MEDICAL GROUP, INC.**  
**MAIN OFFICE—1801 N. Senate Blvd.**  
**929-5800**

**NORTH OFFICE—3077 E. 98th St.**  
**(98th & Keystone) 843-8704**

#### CARDIOLOGY

Richard M. Nay, M.D. 929-8505  
Warren E. Coggeshall, M.D. 846-5666  
Richard R. Schumacher, M.D. 929-5818  
Martin R. See, M.D. 929-5817

#### GASTROENTEROLOGY

Robert D. Pickett, M.D. 846-4696  
Lee G. Jordan, M.D. 929-5826  
Martin P. Meisenheimer, M.D. 929-5816  
John C. Kohne, M.D. 929-5822

#### HEMATOLOGY/ ONCOLOGY

James E. Schroeder, M.D. 929-5812  
Frank A. Workman, M.D. 929-5813

#### INFECTIOUS DISEASES

Michael L. Zeckel, M.D. 929-5814

#### METABOLISM & ENDOCRINOLOGY

William M. Holland, M.D. 843-8700

#### INTERNAL MEDICINE

Hunter A. Soper, M.D. 929-5810  
Douglas H. White, Jr., M.D. 843-8736  
B. T. Maxam, M.D. 843-8703  
Michael B. DuBois, M.D. (GERIATRICS)  
929-5806

Patricia K. Hendershot, M.D. 929-5815  
Douglas J. Moeller, M.D. 929-5808  
Timothy J. Story, M.D. 929-5811  
John F. Schaefer, Jr., M.D. 929-5807

#### NEUROLOGY EEG AND EMG LAB

Norman W. Oestrike, M.D. 929-5828  
Charles E. Rehn, M.D. 929-5827  
John R. Scott, M.D. 929-5819  
Bradford R. Hale, M.D. (PEDIATRICS)  
929-5823

Robert J. Alonso, M.D. 929-5824  
Michael W. French, M.D. 929-5830

#### PULMONARY DISEASES

Michael R. Niemeier, M.D. 929-5820

## CLINICAL, ANATOMIC PATHOLOGY



### The Medical Laboratory

of Drs. Thornton - Haymond Costin Buehl  
Bolinger Warner McGovern McClure Hooker

5940 West Raymond Street, Indianapolis, Indiana 46241

Phone: (317) 248-2448

#### COMPLETE LABORATORY SERVICES

Serving Indiana Since 1947

- MICROBIOLOGY
- SEROLOGY
- CHEMISTRY
- SURGICAL PATHOLOGY
- HEMATOLOGY
- COAGULATION
- FORENSIC
- CYTOLOGY
- EKG
- VETERINARY PATHOLOGY
- TOXICOLOGY
- COURIER SERVICES



#### CLINICAL AND ANATOMIC PATHOLOGY

Central Testing Facility:

5940 W. Raymond St.

For information and details phone  
248-2448

## RHINOLOGY

By appointment only

317-359-9636

### CARL B. SPUTH, M.D.

*Diseases & Surgery of Nose & Sinuses  
Plastic Surgery of the Nose  
Nasal Allergy, Rhinomanometry*

5506 E. 16th St.

Indianapolis 46218

# PHYSICIANS' DIRECTORY

## OTOLOGY

### MERIDIAN OTOLOGY LAB

- \*Complete Audiometric Evaluations
- \*Hearing Aid Evaluations and Dispensing
- \*Brainstem Auditory Evoked Response
- \*Visual Evoked Response
- \*Electronystagmography

Richard Kurtz, M.D.      Jack Summerlin, M.D.  
Kathleen Corbin, M.A., CCC-A  
Audiologist

3266 N. Meridian Street      Indianapolis, Indiana  
Suite B12      (317) 925-7077

## PSYCHIATRY

### Davis Psychiatric Clinic, Inc.

1431 North Delaware Street  
Indianapolis, Indiana 46202  
317/634-9930

James R. Davis, M.D.      R. Peter Mohlman, M.D.  
Larry M. Davis, M.D.      George McAfee, M.D.  
Timothy B. Hudson, M.D.      Judith L. Campbell, M.D.  
Balwant S. Mallik, M.D.

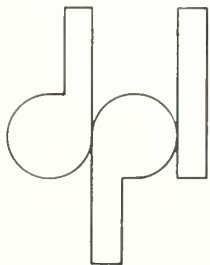
Comprehensive Child, Adolescent, Adult Psychiatry  
Sexual Therapy, Crisis Intervention  
Alcohol and Substance Abuse

## DERMATOPATHOLOGY

### DERMATOPATHOLOGY LABORATORY

Larry J. Buckel, M.D.  
Robert M. Hurwitz, M.D.

Howard R. Gray, M.D.  
William B. Moores, M.D.



Diplomates of the American Board  
of  
Dermatology and Dermatopathology  
*Specializing in*  
Inflammatory Skin Diseases  
and  
Neoplasms of the Skin

9202 North Meridian Street  
Suite 215

Indianapolis, Ind. 46260  
(317) 843-2204

Mailers and Courier Service Available



# *PHYSICIANS' DIRECTORY*

## ONCOLOGY—HEMATOLOGY

### INDIANA ONCOLOGY-HEMATOLOGY CONSULTANTS



#### ADULT ONCOLOGY HEMATOLOGY

Laurence H. Bates, M.D.  
William H. Bond, M.D.  
William M. Dugan, M.D.  
Redmond P. Hogan, M.D.  
Gregory W. Smith, M.D.

#### PEDIATRIC ONCOLOGY HEMATOLOGY

Deborah S. Provisor, M.D.

#### HOSPICE CARE-INTERNAL MEDICINE

Neil E. Irick, M.D.

1828 N. ILLINOIS  
INDIANAPOLIS  
INDIANA 46202

PHONE: 317/927-5770  
TOLL FREE: 1-800-ONC-HEME  
1-800-662-4363

*Located in the Byram Gates Middleton House  
Listed on the National Register of Historic Places*

# PHYSICIANS' DIRECTORY

## PATHOLOGY

### **GPL** CENTRAL INDIANA PATHOLOGY LABORATORIES, INC.

Edwin E. Pontius, M.D., F.C.A.P.    Mary L. Forster, M.D., F.C.A.P.  
*Director*                                      *Co-Director*

Elizabeth C. Bond, M.T.(ASCP), S.M.  
*Administrator*

- PROMPT WALK-IN SERVICE
- 24 HOUR TURNAROUND FOR MOST TESTS
- COURIER SERVICE FOR PHYSICIAN OFFICES
- ASSIGNMENT ACCEPTED ON MEDICARE AND MEDICAID
- BLUE SHIELD PREFERRED PROVIDER

**MAIN LABORATORY**  
Northwest Medical Building  
3500 Lafayette Rd.  
291-9364

**BRANCH LOCATIONS**  
Westlake Medical Building  
805 Beachway Dr. 244-7754  
Zionsville  
50 Boone Woods 873-4837

**\*A FULL SERVICE OUTPATIENT CLINICAL LABORATORY\***

## ORTHOPEDIC FOOT SURGERY

### **ROBERT M. PALMER, M.D.** **A.A.O.S. F.A.C.S.**

Diplomate of the American Board  
of Orthopaedic Surgery

Member of the American Orthopaedic  
Foot and Ankle Society

### **ORTHOPAEDIC RECONSTRUCTIVE SURGERY OF THE FOOT AND ANKLE**

3000 W. 86th Street, Suite 304  
Indianapolis, Indiana 46260  
(317) 872-3364

## HAND SURGERY

### **VIDYASAGAR S. TUMULURI, M.D., F.A.C.S., INC.**

DIPLOMATE AMERICAN BOARD OF SURGERY

*Acute & Reconstructive Hand Surgery*

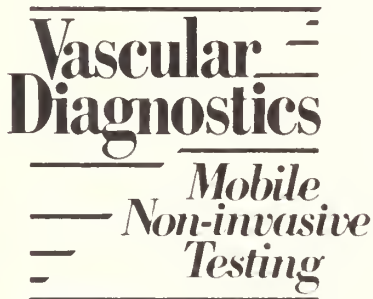
By Appointment                      South Sherman Professional Complex  
Telephone (317) 783-1319              3417 S. Sherman Dr., Suite F  
If No Answer Call (317) 926-3466      Beech Grove, Indiana 46107

A space this size in the Physicians' Directory costs only \$120. Even a notice this size will serve to provide referrals for the next 12 months.

# PHYSICIANS' DIRECTORY

## VASCULAR DIAGNOSTICS

Mobile vascular laboratory service



State of the art non-invasive vascular testing

Performed on site at various hospitals throughout central Indiana. Current sites include Danville, Lebanon, Logansport, Monticello and Rushville.

### EXAMS AVAILABLE INCLUDE:

1. Cerebrovascular assessment
  - a. Direct visualization (Real-time B-mode ultrasound).
  - b. Indirect tests (Periorbital Doppler exam, spectral analysis).
2. Extremity exams
  - a. Arterial Doppler exam (upper and lower extremities).
  - b. Venous Doppler exam (upper and lower extremities).
  - c. Thoracic outlet Doppler screen.
  - d. Digital mapping (e.g. for evaluation of vasospastic disorders).
  - e. Penile Doppler (evaluation for vasculogenic impotence).
  - f. Post-occlusive lower extremity Doppler exam.

For information regarding examination sites and patient scheduling call (317)-872-4129, outside of Indianapolis call 1-800-662-5367. (Offices of Drs. Gardner, Herring, LeGrand, and Madison). Additional exam sites available.



# PHYSICIANS' DIRECTORY

## OPHTHALMOLOGY



### Indiana Eye Associates

#### COMPLETE MEDICAL, DIAGNOSTIC & SURGICAL OPHTHALMIC SERVICES

- Eye Examinations
- Consultations
- Surgery: Cataract, Implant, Glaucoma, Laser, Pediatric, Plastic, Retinal, Corneal and Refractive
- Contact Lenses: Hard, Soft, Gas Permeable & Extended Wear
- Visual Fields
- Ocular & Endothelial Photography
- Ultrasonography

#### Physicians:

David L. Alvis, M.D.	Jack L. Kane, M.D.
Peter H. Cahn, M.D.	John E. Mitchelson, M.D.
George A. Clark, M.D.	Francis W. Price Jr., M.D.
Parvin D. Gillim, M.D.	George E. Waters Jr., M.D.

Indiana Eye Associates P.C.  
9100 Meridian Square  
50 East 91st Street (at North Meridian)  
Indianapolis, IN 46240  
Phone: (317) 848-1348

## ABDOMINAL SURGERY

### TED W. GRISELL, M.D.

*Providing consultative services  
for physicians throughout Indiana  
for patients with  
complex management problems*

5317 East 16th Street 317-359-8261  
Indianapolis 46218 Phone answered 24 hours

## NEUROLOGY

### SHIRLEY M. MUELLER, M.D. NEUROLOGY

Pain, Headache &  
Diseases of the  
Autonomic Nervous System  
(including testing)

**317-871-6000**

**NORTH:** St. Vincent's Professional Bldg. #726

**SOUTH:** Greenwood Heights Professional Bldg. #6

### Attention Indiana Physicians

The *Physicians' Directory* is the most ethical and professional method of announcing specialty practice. It is also the most effective medium for listing office location, office hours, and telephone number for the convenience of colleagues in referring patients.

The title of diplomate of a specialty examining board, a requirement for admission to the *Directory*, offers its assurance of qualifications, whether listed or not.

Family physicians may announce office schedules that are reciprocally staggered in order to provide access to evening and weekend and holiday medical service.

In addition to providing benefits to physicians, the *Directory* is a practical means of providing financial support for INDIANA MEDICINE.

All diplomates of the ISMA are invited to enter a professional card in the *Directory*.

## Dr. Bowen Nominated for HHS Post

The Senate was scheduled to vote last month on the confirmation of Dr. Otis R. Bowen, former governor of Indiana, as secretary for Health and Human Services. Bowen, nominated for the Cabinet post by President Reagan, will be the first physician ever to head HHS or its predecessor agency, the Dept. of Health, Education and Welfare. The agency has a \$348 billion budget and 140,000 employees.

Dr. Bowen's appointment as secretary for Health and Human Services was confirmed by the Senate Dec. 12.

Dr. Bowen, 67, a Republican, was governor from 1973 to 1981. Both of Indiana's senators, Republicans Dan Quayle and Richard Lugar, had urged his appointment. A statement from Sen Lugar's office said, "Doc Bowen is a man with extremely high credentials in his home state of Indiana and has the country doctor's human touch." The statement said Dr. Bowen's appointment would bring "a very competent decision-maker and conservative policymaker" to HHS.

He will succeed Margaret Heckler, who is leaving to become U.S. ambassador to Ireland.

President Reagan said Bowen was picked for the job "because of all the qualifications that he has in excess for this particular position—a fine governor, his background as a doctor, and his background in many other outstanding positions, including the one he has now." Dr. Bowen is the Lester D. Bibler Professor of Family Medicine and director of Undergraduate Family Practice Education at the Indiana University School of Medicine.

Of his new job, Dr. Bowen was quoted as saying, "I expect this will be a tremendous challenge, coming at a time when there is more change in the health care delivery system than at any time in history."

HHS deals with programs ranging from infant health to Social Security.



Dr. Bowen

Major HHS divisions include the Public Health Service, with numerous offices handling federal funding for medical research, the Centers for Disease Control and the Food and Drug Administration; the National Institutes of Health; the Health Care Financing Administration, which directs Medicare and Medicaid programs; and the Social Security Administration, with its old age, survivors and disability insurance program. (Dr. Bowen recently served as chairman of the federal Advisory Council on Social Security.)

## AMA to Publish Placement Registers More Often

The AMA Physicians' Placement Service has revised the publication schedules of its two directories.

The *Opportunity Placement Register* will be published monthly rather than quarterly. The OPR contains concise information on hundreds of practice openings for physicians in most specialties nationwide.

The *Physician Placement Register* will be published on the 15th and 30th of each month, rather than once every two months. The PPR lists coded curricula vitae of physicians seeking full-time and locum tenens positions.

To contact the Physicians' Placement Service, call (312) 645-4712.

## Ending the Abuse of Home Health Services

Dr. James H. Sammons, AMA executive vice-president, wants all physicians to be aware that the AMA passed a resolution at its 1985 annual meeting dealing with home health service abuse.

"Adoption of the resolution (35) was motivated by concern for assuring that the services provided to any patient by a home health agency are only those adjudged appropriate to the patient's needs by a physician involved in that patient's care," Dr. Sammons explained.

The resolution provides that:

- Physicians write or carefully review all initial and renewal orders for home health service and approve only those that are medically indicated;
- Physicians report to appropriate payment agencies and regulatory authorities cases of abusive practices by home health agencies; and that
- Physicians not authorize the provision of home health services to any patient with whom they are not professionally involved in providing care.

## Jeffersonville Hospital Has NOT Been Sold

Dr. Lawrence E. Allen, immediate past president of ISMA, has issued the following statement concerning his recent article, "The ISMA Hospital Medical Staff Section," published in the November 1985 issue of *INDIANA MEDICINE*:

"... I am advised contrary to my earlier understanding that the statement concerning Humana's acquisition of the Clark County Memorial Hospital is incorrect, and I am relieved to learn that this transaction has not taken place.

"I specifically wish to apologize to the Executive Director of the Clark County Memorial Hospital, the hospital Board of Trustees, the County Commissioners, and the County Council for my misunderstanding."



# NEWS NOTES

## Here and There . . .

Dr. Amos Arney, a Michigan City general practitioner, has been named Michigan City Humanitarian of the Year by the city's Human Rights Commission.

Dr. Logan Dunlap of South Bend has received a distinguished service award from Memorial Hospital's pastoral services advisory board, recognizing his 25 years of service.

Dr. Max S. Norris of Indianapolis, a Butler University trustee since 1970, has been awarded the Butler Medal for his efforts to promote and develop the university.

Dr. David M. Hadley of Plainfield has received the ISMA's 1985 Physician Community Service Award. (Related story on page 105).

Dr. Lloyd O. Rupe of Elkhart, who retired in August, has received an Outstanding Alumni Award from Lees-McRae College, Banner Elk, N.C.

Dr. Dean Maglinte of Indianapolis has been appointed associate editor in gastrointestinal radiology for the scientific journal *Radiology*.

Dr. Robert D. McQuiston of Indianapolis has been named an FDA investigator for the Cochlear Corporation's Multi-Electrode Cochlear Implant for Nerve Deafness.

Dr. H. David Heideman of Jeffersonville is the new director of the Radiology Department at Clark County Memorial Hospital.

Recognized for long-standing membership in the American Academy of Family Physicians:

Dr. Daniel T. Ramker, Hammond, 30 years; Dr. Donald L. Hall, Petersburg, 25 years; Dr. Charles F. Deppe, Franklin, 35 years; and Dr. Thomas G. Hamilton, Columbia City, 30 years.

Dr. David J. Waggoner of Peru is a new fellow of the American Academy of Family Physicians.

Dr. William H. Beeson of Indianapolis is a new fellow of the American Academy of Facial Plastic and Reconstructive Surgery.

Dr. Richard L. Veach, a Bainbridge family physician 40 years, has announced his intention to retire from active medical practice.

Dr. Bonnie R. Strate of Indianapolis is a new fellow of the American Academy of Family Physicians.

Dr. Henry E. Montoya, an Indianapolis rheumatologist, was guest speaker at the November meeting of the Indiana Lupus Foundation.

Dr. Dwight W. Schuster of Indianapolis addressed the Parkinson's Awareness Association in November.



Dr. Green

Dr. Morris Green, the Perry W. Lesh Professor and chairman of the Dept. of Pediatrics at I.U. and physician-in-chief at Riley Hospital for Children, has been selected as the first recipient of the Ross Educational Award of the American Academy of Pediatrics.

Dr. Harold D. Caylor and Dr. Truman E. Caylor, "cornerstones" of the Caylor-Nickel Medical Center, Bluffton, were given Caylor-Nickel Chairman Emeritus standing at a November ground-breaking ceremony marking the beginning of construction of the Clinic's Integrated Research Clinical Laboratories building.

ISMA members recently appointed to the state's Cancer Registry Advisory Committee are Drs. Stanley G. Reedy of Elkhart, Anthony Pizzo of Bloomington, and William M. Dugan, Lawrence H. Einhorn, Mason R. Goodman, Richard F. Graffis, and Ronald C. Hamaker, all of Indianapolis.

Dr. Robert B. Kolbe of Bremen has been named a diplomate of the American Board of Family Practice.

Dr. Morton E. Tavel has been named medical director, Dept. of Medical Research, at Methodist Hospital, Indianapolis.

Dr. William F. Nowlin of Merrillville was the luncheon speaker at a public cancer forum at St. John's Medical Center in November.

Dr. Jan R. Reineke of South Bend was the guest speaker at a recent meeting of the Marshall County Right to Life group.

Dr. Frank P. Lloyd, president of Methodist Hospital, Indianapolis, has received the Charles L. Whistler Award for community service; it is presented annually by the Greater Indianapolis Progress Committee for outstanding service in bringing business and government together for the city's betterment.

Dr. Dean Coffield of Bloomington discussed "Advances in Eye Surgery" as part of a recent public lecture series sponsored by Bloomington Hospital.

Dr. Stephen C. Spicer of Rensselaer was the featured speaker at a diabetes education public meeting in November at Jasper County Hospital.

Dr. Annesley Abey of Portage discussed the physiological aspects of Alzheimer's disease at a recent support group meeting sponsored by the Porter County Council on Aging.

Dr. Bonnie R. Strate of Indianapolis has been named a fellow of the American Academy of Family Physicians.

Dr. William K. McGarvey of Indianapolis recently participated in a panel discussion on snoring and sleep apnea; the panel moderator was Dr. Frederick A. Tolle of Indianapolis.

Dr. Randall C. Morgan Jr. of Gary discussed "Exercise Related to Injuries" during the November meeting of the Coronary Club in Merrillville.

Dr. William C. Houser of Evansville discussed breathing tests during the November meeting of the Deaconess Hospital Tri-State Better Breathers pulmonary support group.

Dr. Clark E. Kramer of Crown Point was among the guest speakers at a November day-long seminar in Hammond on "Kids with Cancer: Help Them and Their Families."



## Here and There . . .

Dr. Jack T. Collins of Bluffton addressed a cardiology seminar conducted in November at the Caylor-Nickel Medical Center.

Dr. Donald G. Cvitkovich of Hobart discussed "Living with Asthma" at the November meeting of Gary's Breath-easy Club.

Dr. Ronald M. Kimberlin of Evansville participated in a panel discussion on diabetes at Community Health Forum held in November at Deaconess Hospital.

Dr. Neal C. Pitts of the Caylor-Nickel Medical Center, Bluffton, recently presented a program on genetically predisposed types of arthritis for medical personnel at Wabash County Hospital.

Dr. Alexander A. Stemer of Munster, an infectious disease specialist, discussed Acquired Immune Deficiency Syndrome (AIDS) during a recent seminar in Crown Point.

## National Eye Care Project Offers Help for Elderly

Medical and surgical eye care for America's elderly, regardless of their ability to pay, will be assured in the future by the Foundation of the American Academy of Ophthalmology.

If a person is age 65 or older, is an American citizen or legal resident and does not have a personal ophthalmologist, he or she may call a toll-free number for assistance. An operator, using a computerized system, will match the caller with a nearby ophthalmologist who has volunteered to provide care.

The project's emphasis is on the needy. If a patient does not have Medicare or other health insurance, the physician's services are provided without charge.

If the caller has Medicare or other health insurance, this will pay the entire cost of the physician's services. For this project only, volunteer ophthalmologists have agreed to accept Medicare and insurance assignment as payment in full.

The project is called the National

## New ISMA Members

The following physicians were welcomed in November as new members of the Indiana State Medical Association:

Joseph A. Katz, M.D., Indianapolis, gastroenterology.



Edgar P. Kowalski, M.D., Merrillville, family practice.

Christopher A. Leuz III, M.D., Elkhart, plastic surgery.

Michael Scott, M.D., Fort Wayne, obstetrics and gynecology.

Franklin W. Sequeira, M.D., Beech Grove, diagnostic radiology.

Homayoon Shidnia, M.D., Indianapolis, therapeutic radiology.

Randall J. Smith, M.D., Indianapolis, internal medicine.

J. David Swift, M.D., Munster, internal medicine.

Robert D. Tarver, M.D., Indianapolis, diagnostic radiology.

Michael P. Wenzler, M.D., Bloomington, psychiatry.

Susan W. Wilson, M.D., Indianapolis, anesthesiology.

## Residents:

Eugene G. Marciniak, M.D., Indianapolis, dermatology.

James L. Qualkinbush, M.D., Indianapolis, anesthesiology.

Raymond J. Zimmerman, M.D., Merrillville, family practice.

Eye Care Project. It began Jan. 6 in Washington state and will be phased in nationwide in two- to three-week intervals in 12 multistate regions.

Indiana, Illinois and Wisconsin are in Region E and will be activated April 14. The Academy's address is P.O. Box 7424, San Francisco 94120.

## Indianapolis to Host AMA Management Workshop

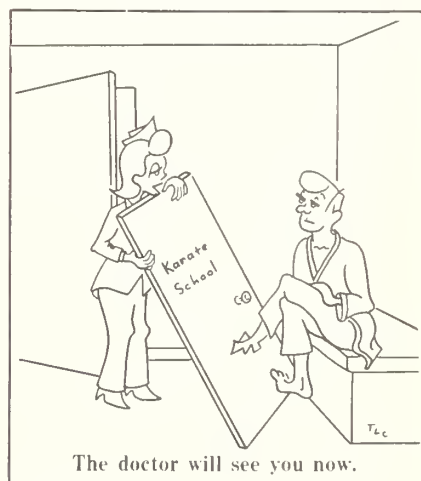
To help physicians ensure that they receive maximum fair reimbursement from third-party payors, the AMA's Department of Practice Management is offering one-day workshops on "Insurance Processing and Coding for the Medical Office."

physicians and the medical office staff. The processing and coding procedures used in a medical office will be explained. Emphasis is placed on acquiring a working knowledge of the Current Procedural Terminology (CPT) coding system through "hands-on" practice.

Participants will receive at no addi-

tional charge a copy of the "Insurance Processing and Coding" workbook, which contains many helpful forms and charts, and a current edition of the CPT-4 coding manual. The fee for the one-day workshop also includes refreshment breaks.

The Indianapolis workshop will be on June 18. To register or to obtain more information call the AMA at (312) 645-4958 or write the AMA Dept. of Practice Management at 535 N. Dearborn, Chicago 60610.



# NEWS NOTES

## For the Asking . . .

• "Does Nature Know Best? Natural Carcinogens in American Food" is the title of a 38-page pamphlet published by the American Council on Science and Health. Small amounts of carcinogens do occur in some food items. In fact, this is one of the reasons why a diversified diet is recommended. The text states there is no scientific evidence that natural food is safe and "man-made" food is suspect. For a complimentary copy, send a self-addressed, stamped (39¢), business-size (#10) envelope to Natural Carcinogens Report, ACSH, 47 Maple St., Summit, N.J. 07901.

• "The American Woman's Knowledge of Health and Physical Well Being" is a 50-page report prepared by the Hearst Corporation based on its recent national survey that found "American women today are well informed about basic nutrition and female physiology." A majority of women (89%) can identify the source of calcium, and 79% know iron is a curative for anemia. High scores were achieved on the value of high-fiber foods and on the efficacy of mammograms, even for those who regularly perform self-exams. Most women also know about osteoporosis, arthritis, and are aware that lung cancer is surpassing breast cancer as a killer. Free single copies of the "Hearst Report"

are available from James O'Donnell, Director of Corporate Communications, The Hearst Corporation, 959 Eighth Ave., New York, N.Y. 10019.

• The National Foundation for Ileitis and Colitis is accepting applications for grants or research training awards until Feb. 1, 1986. For details, contact the Foundation at 444 Park Ave. South, New York, N.Y. 10016—(212) 685-3440.

• Practical advice for hay fever sufferers is offered in a 28-page pamphlet published by the American Council on Science and Health. The public is advised first that the allergic reaction named hay fever is almost never due to hay and is not associated with fever. The observation that symptoms become more severe at the end of the season when pollen counts are low is explained by the fact that a patient's tolerance for allergens decreases during the season. Good advice is provided concerning the purchase of air purifiers and various filters in an attempt to avoid pollens. Consideration is also given to the purchase and use of over-the-counter remedies. For a complimentary copy of "Hay Fever," send a self-addressed, stamped (39¢), business-size envelope to Hay Fever Report, ACSH, 47 Maple St., Summit, N.J. 07901.

• "The Medical Practice Letter" for October 1985 features an article, "Reducing Staff Turnover," which says it costs more to train a replacement than it does to better compensate a valued employee. The article suggests that personnel policies and procedures be reviewed to be sure crucial items such as job descriptions and performance evaluations are in place and up to date; these help in compensation decisions. Job flexibility and employee morale are highlighted as well. A footnote to the article points out that its April-May 1984 issue contained a thorough work-up on staff management issues. Back issues are sold for \$12 each. Write Medical Practice Letter, 227 Everit St., New Haven, Conn. 06530.

• The American Board of Medical Specialists has announced the spring 1986 release of the first biennial edition of the *ABMS Compendium of Cer-*

*tified Medical Specialists*. It consists of seven volumes and is the only biographical directory authorized by the ABMS and each of the 23 member boards. Data are obtained directly from each specialty board and from each physician. The pre-publication price is \$180, with a 10% discount on orders of 10 or more sets. After April 30, 1986, the price will be \$200 plus postage and handling. To order, contact the ABMS, One American Plaza, Suite 805, Evanston, Ill. 80201—(312) 491-9091.

• The Calorie Control Council has a new brochure on low calorie products. The subject matter covers the artificial sweeteners, safety, regulatory approval, benefits and limitations and the uses for which each one is ideal. Low-calorie foods and beverages are discussed. To obtain single free copies of "Sweet Choices," write to the Council at Suite 500-D, 5775 Peachtree-Dunwoody Road, Atlanta, Ga. 30342.

## Cochlear Implant Update

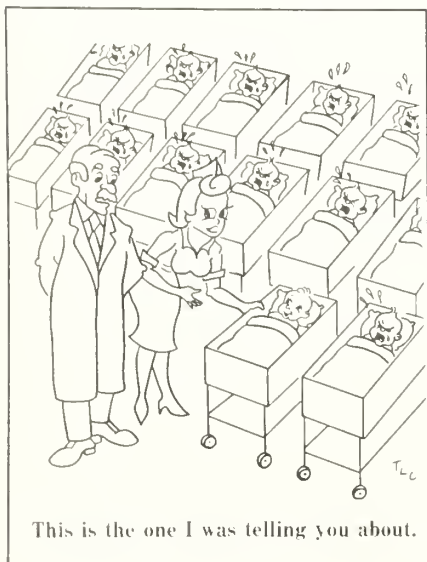
The cochlear implant program, under Dr. Richard T. Miyamoto at the I.U. Medical Center, has two new multi-channel cochlear devices. Both of the devices have a heightened effect on some patients' abilities to understand what is being said without relying on visual cues.

Patients who have been operated upon to establish the inner portion of the cochlear implant leave the hospital in a day or two and return later for attachment of the external device. Each patient is carefully trained in familiarity with the device and for fine tuning of the implant and external device.

## ASPEN Clinical Congress

The American Society for Parenteral and Enteral Nutrition (ASPEN) will conduct its 10th Clinical Congress program Feb. 9 to 12 at Loews Anatole Hotel, Dallas.

For details, write to ASPEN at 8605 Cameron St., Suite 500, Silver Spring, Md. 20910.





## ACSH Newsletter Offers Provocative Reading

The September-October 1985 issue of *ACSH News & Views*, published by the American Council on Science and Health, contains many items of information that make worthwhile reading.

"After the Apocalypitics" is the title of the lead article, which reviews reactions and opinions based on Edith Efron's book, *The Apocalypitics: Cancer and the Big Lie*, published in June 1984. The book has engendered much scientific comment both pro and con concerning the authors' premise that much of what is ballyhooed about cancer and cancer prevention in the U.S. is based on unreliable and faulty experimentation and, therefore, should not be relied upon. The *Boston Globe* published a review in which George Higgins, not entirely facetiously, stated that Efron had raised the "serious question of whether the National Cancer Institute is worth the cost of the powder it would take to blow it up."

Other items in the same issue include "Clove Cigarettes: A Serious Health Hazard?" and a full discussion as to the function of red meat in the diet. There is also an intriguing article entitled "Cigarette Lawsuits: Using Product Liability to Achieve Social Responsibility."

Copies are available at \$2 each. Write ACSH, 1996 Broadway, New York, N.Y. 10023.

## MR Images Transmitted Via Satellite

GTE Spacenet Corporation will provide the nation's first satellite transmission of magnetic resonance (MR) images on its all Ku-Band GSTAR I communications satellite. MR image transmission via satellite is a new teleradiology application, which will allow virtually real time transfer of high-resolution images in a cost effective manner.

## Health Care in Indonesia

International Medical Seminars of Westport, Conn. announces two interesting expeditions to the islands east of Bali and the Asmat Region of West Irian (New Guinea).

Both seminar programs focus on health care in Indonesia today, with emphasis on primitive cultures. Guest lecturers will provide an educational experience, with approximately 28 hours of CME Category 1 credit. The time frame is April 1986.

Contact International Medical Seminars, 125 Main St., Westport, Conn. 06880—(800) 551-0019.

## Grandma, Kids and Drugs

The Consumer Products Safety Commission has reported that one-third of all children under age 5 in the Birmingham, Alabama area who swallowed drugs accidentally, had taken their grandparents' medicines.

## Physician Recognition Awards



The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned, and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.



Acosta, Constancio B., Hobart  
Alig, Vincent B., Indianapolis  
Batacan, George A., Michigan City  
Beeson, William H., Indianapolis  
Bentz, John M., Bluffton  
Blazey, Arthur G., Santa Claus  
Breitenfield, Richard V., Muncie  
Cahn, Peter H., Indianapolis  
Castor, Conrado P., Munster  
Colalillo, Alex, Logansport  
Cordano, Angel, Evansville  
Cronen, Paul W. Jr., Madison  
Feferman, Martin E., South Bend  
Fields, Max L., Monticello  
Galbraith, Kathleen A., Indianapolis

Habermel, John F., New Albany  
Hamilton, Thomas G., Columbia City  
Harper, Michael E., Tipton  
Haslitt, Joseph H., Muncie  
Herrell, Michael A., Evansville  
Hilburn, Jeffrey W., Indianapolis  
Jones, Steven M., Fort Wayne  
Kovacich, Michael, Munster  
LaFollette, James W., Bloomington  
Lappas, John C., Carmel  
Leatherman, James G., Indianapolis  
Marciniak, Andrew F., Anderson  
Murali, Jagaral S., Indianapolis  
Paraiso, Antonio Q., Richmond  
Patheja, Surjit S., Valparaiso

Penkava, Robert R., Evansville  
Penland, William R., Evansville  
Price, Robert W., Elkhart  
Rausch, James M., Fort Wayne  
Rehil, Om P., Marion  
Smith, Darryl R., Fort Wayne  
Stein, Mark H., Indianapolis  
Steury, Clinton D., Bluffton  
Suwan, Sakda, Merrillville  
Thomas, Daniel D., Merrillville  
Triplett, Douglas A., Muncie  
Vasudevamurthy, Kolala, Marion  
Watson, James R., Lafayette





**THE INDIANA MEDICAL FOUNDATION, INC.**  
**3935 North Meridian Street**  
**Indianapolis 46208**

A foundation for charitable, educational, and scientific purposes, organized by the ISMA as an endowment fund to support the educational mission of the Association and INDIANA MEDICINE.

Bequests, legacies, devises, transfers or gifts to the Foundation or for its use are deductible for federal estate and gift tax purposes, in accordance with the Internal Revenue Code.

The Foundation is managed by a board of directors that comprises the members of the ISMA Executive Committee. At present, proceeds from the Foundation investments are awarded to INDIANA MEDICINE to further the continuing medical education program.

Memorial contributions made to the Foundation in lieu of flowers will be acknowledged by the secretary in a letter to the family of the deceased.

*"for religious, charitable, scientific,  
literary or educational purposes"*

# THE INDIANA STATE MEDICAL ASSOCIATION

## OFFICERS

President — Paul Siebenmorgen, Terre Haute  
 Pres-elect — Shirley Khalouf, Marion  
 Immed Past Pres — Lawrence E. Allen, Anderson  
 Executive Director — Donald F. Foy, Indpls  
 Treasurer — George H. Rawls, Indpls  
 Asst Treas. — Max Wesemann, Franklin  
 Speaker — Fred W. Dahling, New Haven  
 Vice Speaker — C. Dyke Egnatz, Schererville

## EXECUTIVE COMMITTEE

\*Paul Siebenmorgen, Terre Haute  
 Shirley Khalouf, Marion  
 Lawrence E. Allen, Anderson  
 George H. Rawls, Indpls  
 Max Wesemann, Franklin  
 John D. MacDougall, Beech Grove  
 Fred W. Dahling, New Haven  
 C. Dyke Egnatz, Schererville  
 Mark M. Bevers, Seymour  
 Michael Mellinger, LaGrange

## TRUSTEES (Terms end in October)

### District

- 1 — E. DeVerre Gourieux, Evansville (1986)
- 2 — Paul J. Wenzler, Bloomington (1987)
- 3 — Thomas A. Neathamer, Jeffersonville (1988)
- 4 — Mark M. Bevers, Seymour (1986)
- 5 — Benny Ko, Terre Haute (1987)
- 6 — Clarence G. Clarkson, Richmond (1988)
- \*7 — John D. MacDougall, Beech Grove (1986)
- 7 — William H. Beeson, Indianapolis (1987)
- 8 — William C. VanNess II, Summitville (1987)
- 9 — Max N. Hoffman, Covington (1988)
- 10 — Nicholas L. Polite, Hammond (1986)
- 11 — Edward L. Langston, Flora (1987)
- 12 — Michael O. Mellinger, LaGrange (1988)
- 13 — John W. Luce, Michigan City (1986)

\*Chairman

## ALTERNATE TRUSTEES (Terms end in October)

### District

- 1 — Bruce W. Romick, Evansville (1988)
- 2 — Jerome E. Melchior, Vincennes (1986)
- 3 — Richard G. Huber, Bedford (1986)
- 4 — William E. Cooper, Columbus (1988)
- 5 — Fred E. Haggerty, Greencastle (1988)
- 6 — Ray A. Haas, Greenfield (1986)
- 7 — Donna J. Meade, Indianapolis (1988)
- 7 — Michael B. DuBois, Indianapolis (1988)
- 8 — Douglas A. Triplett, Muncie (1988)
- 9 — R. Adrian Lanning, Noblesville (1986)
- 10 — Frank M. Sturdevant, Valparaiso (acting)
- 11 — Jack W. Higgins, Kokomo (1986)
- 12 — Thomas A. Felger, Fort Wayne (1986)
- 13 — Steven M. Yoder, Goshen (1988)

## AMA DELEGATES (Terms end Dec. 31)

Everett E. Bickers, Floyds Knobs (1986)  
 Malcolm O. Scamahorn, Pittsboro (1986)  
 Gilbert M. Wilhelmus, Evansville (1986)  
 Marvin E. Priddy, Fort Wayne (1987)  
 Peter R. Petrich, Attica (1987)  
 Thomas C. Tyrrell, Hammond (1987)

## AMA ALT. DELEGATES (Terms end Dec. 31)

Alvin J. Haley, Carmel (1986)  
 John A. Knote, Lafayette (1986)  
 Robert M. Seibel, Nashville (1986)  
 Martin J. O'Neill, Valparaiso (1987)  
 Herbert C. Khalouf, Marion (1987)  
 Vincent J. Santare, Munster (1987)

## DISTRICT OFFICERS AND MEETINGS

- 1 — Pres: Jeffrey C. Rendel, Jasper  
 Secy: Syed A. Ali, Boonville  
 Annual Meeting: 1986, Evansville
- 2 — Pres: Frederick R. Ridge Jr., Linton  
 Secy: Harry Rotman, Jasonville  
 Annual Meeting:
- 3 — Pres: Gordon L. Gutmann, Jeffersonville  
 Secy: Olegario J. Ignacio, Jeffersonville  
 Annual Meeting: 1986, Jeffersonville
- 4 — Pres: Rosemary E. Weir, Brownstown  
 Secy: Charles Calhoun, Seymour  
 Annual Meeting: May 7, 1986, Seymour
- 5 — Pres: J. F. Swaim, Rockville  
 Secy: Peggy S. Swaim, Rockville  
 Annual Meeting: 1986, Parke Vermillion Co.
- 6 — Pres: Douglas Carter, Shelbyville  
 Secy: William Nesbitt, Connersville  
 Annual Meeting:
- 7 — Pres: John M. Records, Franklin  
 Secy: Marshall H. Trusler, Indianapolis  
 Annual Meeting:
- 8 — Pres: Conrado R. Miranda III, Winchester  
 Secy: Jerome M. Leahey, Union City  
 Annual Meeting: June 4, 1986, Delaware
- 9 — Pres: Walter P. Beaver, Noblesville  
 Secy: Dennis L. Pippenger, Noblesville  
 Annual Meeting: June 11, 1986, Noblesville
- 10 — Pres: Frank M. Sturdevant, Valparaiso  
 Secy: Barron M. Palmer, Hammond  
 Annual Meeting: Sept. 24, 1986, Valparaiso
- 11 — Pres: Michael Ball, Marion  
 Secy: Fred Poehler, LaFontaine  
 Annual Meeting: Sept. 17, 1986, Marion
- 12 — Pres: Antonio Dones, Fort Wayne  
 Secy: Thomas Smith, New Haven  
 Annual Meeting: Sept. 18, 1986, Fort Wayne
- 13 — Pres: Michael Thomas, Elkhart  
 Secy: Thomas J. Eberts, South Bend  
 Annual Meeting: Sept. 10, 1986, Elkhart

## COMMISSION CHAIRMEN

Constitution & Bylaws  
 Lloyd L. Hill, Peru  
 Legislation  
 Edward L. Langston, Flora  
 Physician Impairment  
 Larry M. Davis, Indianapolis  
 Public Relations  
 R. Adrian Lanning, Noblesville  
 Medical Services  
 Michael O. Mellinger, LaGrange  
 Convention Arrangements  
 James L. Grainger, South Bend  
 Medical Education  
 Franklin A. Bryan, Fort Wayne  
 Sports Medicine  
 Gary Prah, Lafayette  
 Ronald G. Blankenbaker, Indianapolis

## COMMITTEE CHAIRMEN

Negotiations  
 John A. Knote, Lafayette  
 Medical Education Fund  
 John W. Beeler, Indianapolis  
 Grievance  
 G. Beach Gattman, Elkhart  
 Future Planning  
 W.C. Van Ness II, Alexandria  
 Medico-Legal  
 John W. Beeler, Indianapolis  
 Indiana Medical Foundation  
 Frank B. Ramsey, Indianapolis  
 Reduce Drunk Driving  
 Michael DuBois, Indianapolis

## SECTION OFFICERS

ANESTHESIOLOGY  
 Chmn: Steven R. Young, Carmel  
 Secy: Donald L. Weninger, Michigan City  
 CUTANEOUS MEDICINE  
 Chmn: Donald W. Smith, South Bend  
 Secy: Mary C. Greist, Indianapolis  
 DIRECTORS OF MEDICAL EDUCATION  
 Chmn: Glenn D. Baird, Evansville  
 Secy: Thomas P. Dunfee, South Bend  
 EMERGENCY MEDICINE  
 Chmn: Kenneth L. DeHart, Kokomo  
 Secy: Eve Olson, Indianapolis  
 FAMILY PRACTICE  
 Chmn: Bernard J. Emkes, Indianapolis  
 Secy: William C. Spence, Knightstown  
 INTERNAL MEDICINE  
 Chmn: Dennis E. Stone, Columbus  
 Secy: Robert L. Rudesill, Indianapolis  
 MEDICAL DIRECTORS & STAFF  
 PHYSICIANS OF NURSING FACILITIES  
 Chmn: Hugh K. Thatcher, Indianapolis  
 Secy: Ivan T. Lindgren, Aurora  
 NEUROLOGY  
 Chmn: Charles A. Bonsett, Indianapolis  
 (Pro Tem)  
 Secy:  
 NEUROLOGICAL SURGERY  
 Chmn: Daniel F. Cooper, Indianapolis  
 Secy: Marvin R. Bernard, Merrillville  
 NUCLEAR MEDICINE  
 Chmn:  
 Secy: Aslam R. Siddiqui, Indianapolis  
 OBSTETRICS & GYNECOLOGY  
 Chmn: J. Robert Stanley, Muncie  
 Secy: William E. Graham, Fort Wayne  
 OPHTHALMOLOGY  
 Chmn: Forrest Ellis, Indianapolis  
 Secy: Gerald Keener, Indianapolis  
 ORTHOPAEDIC SURGERY  
 Chmn: Ben Woodward, Evansville  
 Secy: Wade Radenacher, Beech Grove  
 OTOLARYNGOLOGY, HEAD & NECK SURGERY  
 Chmn: William E. Cooper, Columbus  
 Secy: Richard T. Miyamoto, Indianapolis  
 PATHOLOGY & FORENSIC MEDICINE  
 Chmn: Merritt O. Alcorn, Madison  
 Secy: Arthur C. Jay, Columbus  
 PEDIATRICS  
 Chmn: Michael A. Hogan, Indianapolis  
 Secy: Kenneth C. Castor, Fort Wayne  
 PREVENTIVE MEDICINE & PUBLIC HEALTH  
 Chmn: Jane M. Imscher, Fort Wayne  
 Secy: Francis B. Warrick, Richmond  
 PSYCHIATRY  
 Chmn: Philip M. Coons, Indianapolis  
 Secy: Cherryll G. Friedman, Noblesville  
 RADIOLOGY  
 Chmn: Robert W. Holden, Plainfield  
 Secy: Richard L. Pitman, Columbus  
 SURGERY  
 Chmn: John D. Pulcini, Evansville  
 Secy: Ted W. Grisell, Indianapolis

## ISMA KEY STAFF PERSONNEL

Donald Foy — Executive Director  
 Michael Huntley — Assoc Exec Director  
 Richard King — Attorney, IMPAC, Lobbyist,  
 Assoc Exec Director  
 Ronald Dyer — Attorney, Assoc Exec Director  
 John Wilson — Accountant  
 Adele Lash — Communications  
 Howard Grindstaff — Field Services  
 Sara Klein — Field Services  
 Bob Sullivan — Field Services, AMA Relations  
 Mary Alice Cary — Executive Assistant  
 Rosanna Iler — Membership, Auxiliary  
 Beckett Shady King — CME, Travel, House of  
 Delegates  
 Karyl Hancock — Convention Coordinator,  
 Meetings  
 Tom Martens — Members' Health Insurance  
 Carol Ann Cunningham — Resident Medical  
 Society, Specialty Society Services  
 Martin Badger — INDIANA MEDICINE

# COMMERCIAL ANNOUNCEMENTS

**EXPERIENCED Family Practitioner or Internist** opening immediately available in well established medical group. Send curriculum vitae with references to Richard Knaflich, P.O. Box 27238, Indianapolis, Ind. 46227.

**EMERGENCY MEDICINE Position Available:** Opportunity for experienced Emergency Physician to join professional group practicing in Hobart and Gary, Indiana. Contact Dr. Cornelius Arnold at (312) 747-7115.

**VERSATILE SURGEON** wanted to complement aggressive family practice group in rural north-eastern Minnesota resort community. Well equipped 40-bed hospital with proven surgical practice volume. Outstanding outdoor recreational opportunities with time off to enjoy it. Reply with CV to E. Johnson, Ely Medical Center, Ltd., 224 E. Chapman St., Ely, Minn. 55731—(218) 365-3151.

**FULL-TIME FAMILY PRACTITIONER or an Internist** wanted by an established group. Regular hours and competitive compensation. Submit C.V. to H.P.I., P.O. Box 27246, Indianapolis, Ind. 46227. All inquiries treated with strict confidence.

**PSYCHIATRIST**—Psychiatric Services Division of general hospital offers part-time contract hours to Board-eligible or certified Psychiatrist at satellite offices located in Frankfort and Tipton, Indiana. Qualified candidates may contact Steven W. Adrianse, Director of Personnel Services, or Dr. Robert Adams, 3500 S. Lafountain, Kokomo, IN 46902—(317) 453-8560. EOE M/F/H

**EQUIPMENT FOR SALE**—We buy, sell, lease and service new and reconditioned Holter-Stress-Echo-EKG and other medical electronic instruments. Contact: Ed Bentolila, New Life Systems, Inc., P.O. Box 8767, Coral Springs, FL 33065—(305) 972-4600.

**3BR TOWNHOUSE-THE KNOLL**—\$81,900. Sharp townhouse condominium in excellent condition. Large formal dining room, fireplace in living room. Beautiful landscaping around patio. Conveniently located 3 blocks west of Art Museum and near Indiana University. Washington Township schools. Tobi Weinstein, (317) 872-8505/844-3180.

**CONDOMINIUM FOR SALE**—Pointe, Lake Monroe. 2 bedrooms, with 3rd in loft. 1 bath. All G.E. appliances and window treatments included. Never a rental. Immaculate. \$49,500. Joe Cronin, M.D., (317) 253-7280 (home).

**PRACTICE OPPORTUNITIES NATIONWIDE**—MIDWEST: Radiology, Oncology, Orthopedics, Dermatology; SOUTH: HMO Medical Director, Emergency, FP; WEST: OB, Surgery, Psychiatry, FP; EAST: Psychiatry, Emergency, FP. Call or write Jack Segall, Harper Associates, 15659 W. 10 Mile, Southfield, MI 48075—(313) 557-1700.

**OUTSTANDING PRACTICE OPPORTUNITY** immediately available . . . general practice in east central Indiana established clinic. Guaranteed salary. Fee for service incentives. Regular hours. Send Curriculum Vitae to INDR, P.O. Box 1631, Marion, Indiana 46952.

**DIRECTOR OF INPATIENT PSYCHIATRIC SERVICES**—Psychiatric Services Division of 152-bed general hospital offers immediate opportunity to Board-eligible or certified Psychiatrist to serve as Director of Psychiatric Inpatient Services. Responsibilities include: Diagnosis, treatment and disposition of inpatient clientele; supervision of professional staff; development of clinical services; consultations; evaluations and forensic services. Work in the progressive atmosphere of our \$5.1 million Psychiatric wing due to open in the fall of 1985. Enjoy a liberal fringe benefit package which includes health, dental and life insurance and a generous non-contributory pension program. Salary range is approximately \$65,000 to \$100,000 commensurate with experience. Contact: Steven W. Adrianse, Director of Personnel Services, or Dr. Robert Adams, Medical Director/Psychiatric Services, Howard Community Hospital, 3500 S. Lafountain, Kokomo, IN 46902—(317) 453-8560. EOE M/F/H.

**MEDICAL DIRECTOR**—Board certification in Internal Medicine or Family Practice. Will coordinate medical services for 830 mentally retarded residents. An attractive facility in southeastern Indiana about 70 miles from Indianapolis, Cincinnati and Louisville. Salary ranges \$48,930 to \$76,076. Excellent fringe benefits. Contact William J. Culley, Ph.D., Asst. Superintendent-Modules, Muscatatuck State Developmental Center, Box 77, Butlerville, Ind. 47223, phone (812) 346-4401.

**SEMINARS**—Most major ski areas, Club Med, Disney World and other resorts. Topic: MEDICAL/LEGAL and FINANCIAL MANAGEMENT. Accredited. CURRENT CONCEPT SEMINARS, INC. (since 1980), 3301 Johnson St., Hollywood, FL 33021—(800) 428-6069. Fee \$175.

**DIAGNOSTIC RADIOLOGIST**, also Board-certified in Nuclear Medicine, seeks position in central Indiana. 8 years experience as director of nuclear medicine, major university hospital. Competent in CT Scanning, ultrasound and special procedures. Phone Dr. H. Kidman, (317) 787-3296.

**VACATION ON BEAUTIFUL SANIBEL ISLAND, FLORIDA**—Luxury Gulf-front 2 bdrm/2 bath condo for rent w/pool, tennis courts, and BBQ facilities. Seasonal rates. Contact: M. Evans, PH. (312) 361-4742.

Commercial announcements are published as a service to members of the Indiana State Medical Association. Only ads considered to be of advantage to members will be accepted. Advertisements of a truly commercial nature (e.g., firms selling brand products, services, etc.) will be considered for display advertising.

All orders must be in writing and will automatically be set in regular classified type. Box numbers are not available.

## Charges:

Indiana physicians . . . . .	25¢/word (\$5 min)
Out-of-state physicians . . . . .	35¢/word (\$7 min)
Hospitals health care facilities . . . . .	50¢/word (\$10 min)
Realtors commercial recruitment and all others . . . . .	75¢/word (\$15 min)

**Deadline:** First working day of month preceding month of publication.

**Payment Procedure:** Payment in advance is not required. Invoices and tearsheets are mailed to advertisers upon publication. INDIANA MEDICINE is issued on the 10th of each month.

**Address:** INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis, Ind. 46208.



**WANTED—Board Certified Surgeon** with interest in vascular surgery to join 2 general surgeons, ages 63 and 47. Busy general surgical practice looking after HMO and fee-for-service patients in a multi-specialty group practice setting. Salary negotiable; benefits plus ownership possibilities. Curriculum vitae to Dr. Allen J. Perry, M.D., Medical Director, Arata Medical Group, 3301 Lake Avenue, Fort Wayne, Indiana 46805.

**ANESTHESIOLOGIST**, BE, available for locum tenens work. Licensed in Indiana and Michigan. CV on request. Please contact: W. T. Kirsten, M.D., P.O. Box 542, Lapeer, Mich. 48446 or call (313) 667-9309.

**EMERGENCY MEDICINE Position Available:** Opportunity for experienced Emergency Physician to join professional group practicing in northwestern Indiana. Contact Dr. Daniel Philipsborn at (312) 448-3224.

**DIRECTOR OF OUTPATIENT PSYCHIATRIC SERVICES**—Psychiatric Services Division of a 152-bed general hospital offers immediate opportunity to Board-eligible or certified Psychiatrist to serve as Director of Psychiatric Outpatient Services. Responsibilities include: Diagnosis, treatment and disposition of outpatient clientele; supervision of professional staff; development of clinical services; consultations; evaluations and forensic services. Work in the progressive atmosphere of our \$5.1 million Psychiatric wing due to open in the fall of 1985. Enjoy a liberal fringe benefit package which includes health, dental and life insurance and a generous non-contributory pension program. Salary range is approximately \$65,000 to \$100,000 commensurate with experience. Contact: Steven W. Adrianse, Director of Personnel Services, or Dr. Robert Adams, Medical Director Psychiatric Services, Howard Community Hospital, 3500 S. Lafountain, Kokomo, IN 46902—(317) 453-8560. EOE M/F/H.

**INDIANA, NORTH OF INDIANAPOLIS:** Immediate full time position in newly renovated emergency department at 135-bed facility. Hourly salary, flexible scheduling, malpractice insurance provided. Locum tenens opportunities also available. For more information, contact Emergency Consultants, Inc., 2240 South Airport Road, Room 20, Traverse City, MI 49684. 1 800 253 1795 or in Michigan 1 800-632 3496.

**OFFICE SPACE AVAILABLE** Greenwood Professional Park. Excellent accommodations in an established medical complex. Attractive. Well landscaped setting. Plenty of convenient parking. Complete laboratory and radiological services on premises. Centrally located in the fastest growing area of Indiana. Two miles from new University Heights Hospital. Ideal location for the individual practitioner or as an additional location for group practices. Ready for occupancy. No leasehold expenses required. For additional information, please call (317) 881-3565.

# Family Practice Available In 1986

- Board certified AAFP practitioner retiring.
- Practice well established for 40 years.
- Town of 5000, county seat, has modern 80 bed general hospital:—JCAH approved
- 18 minutes from Fort Wayne, Indiana
- Offer Salary, partnership or outright sale.

Write: C. Jules Heritier, M.D.  
116 S. Chauncey St.  
Columbia City, IN 46725

## ADVERTISERS INDEX

January 1986

Vol. 79

No. 1

Advanced Information Systems	2
American Physicians Life	12
Brown Pharmaceutical Co., Inc.	35
Campbell Laboratories	37
Central Pharmaceuticals, Inc.	44
Commercial Announcements	128
Ear Institute of Indiana	130
Eli Lilly and Company	10
Humana Heart Institute	39
Indiana Medical Bureau	17
Indiana Medical Foundation	126
Lincoln National Life	27
Medical Protective Company	47
Peoples Drug	5
Physicians' Directory	112-120
Physicians Insurance Co. of Indiana	Cover
Roche Laboratories	Covers
University Microfilms	105
Upjohn Company	9
U.S. Air Force	110
U.S. Army	34

The Ear Institute of Indiana, the Wright  
Institute of Otology & Community  
Hospitals Indianapolis

### Vertigo 1986:

Diagnosis & Management

February 20, 1986

This one day course provides current information on  
clinical vestibular diagnosis and management.

Course Director:  
William C. LeLiever, M.D.

#### Faculty

Hugh O. Barber, M.D.	Michael G. Orr, M.D.
Burton J. Cohen, M.D.	J. William Wright, Jr., M.D.
George W. Hicks, M.D.	J. William Wright, III, M.D.
William C. LeLiever, M.D.	Shokri Radpour, M.D.
Richard T. Miyamoto, M.D.	Eliot M. Wallack, M.D.

Co-sponsored by the American Neurotology Society;  
approved for AMA, CME category 1/ 8 credit hours

For further information contact

Nate Aldrich

Director of Educational Resources  
Community Hospitals Indianapolis  
1500 North Ritter Avenue  
Indianapolis, Indiana 46219  
(317) 353-5473

In accepting advertising for publication, INDIANA MEDICINE has exercised reasonable precaution to insure that only reputable, factual advertisements are included. However, we do not have facilities to make comprehensive or complete investigation, and the claims made by advertisers in behalf of goods, services and medicinal preparations, apparatus or physical appliances are to be regarded as those of the advertisers only. Neither sanction nor endorsement of such is warranted, stated or implied by the association.

EXCERPTS FROM A SYMPOSIUM  
"THE TREATMENT OF SLEEP DISORDERS"<sup>8</sup>

... highly effective  
for both sleep induction and  
sleep maintenance

Sleep Laboratory Investigator  
Pennsylvania

... onset of action is  
rapid... provides sleep with  
no rebound effect to agitate the  
patient the following day

Psychiatrist  
California

... appears to have  
the best safety record of any  
of the benzodiazepines

Psychiatrist  
California

After 15 years, the experts still concur about the  
continuing value of Dalmane (flurazepam HCl/  
Roche). It provides sleep that satisfies patients...  
and the wide margin of safety that satisfies you.

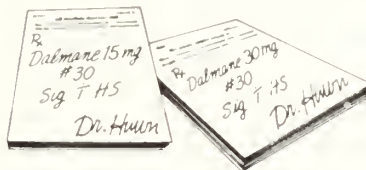
The recommended dose in elderly or debilitated  
patients is 15 mg. Contraindicated in pregnancy.

**DALMANE**<sup>®</sup>  
flurazepam HCl/Roche <sup>®</sup>  
sleep that satisfies

15-mg/30-mg  
capsules



References: 1. Kales J, *et al*. *Clin Pharmacol Ther* 12:691-697, Jul-Aug 1971. 2. Kales A, *et al*. *Clin Pharmacol Ther* 18:356-363, Sep 1975. 3. Kales A, *et al*. *Clin Pharmacol Ther* 19:576-583, May 1976. 4. Kales A, *et al*. *Clin Pharmacol Ther* 32:781-788, Dec 1982. 5. Frost JD Jr, DeLucchi MR. *J Am Geriatr Soc* 27:541-546, Dec 1979. 6. Dement WC, *et al*. *Behav Med*, pp 25-31, Oct 1978. 7. Kales A, Kales JD. *J Clin Psychopharmacol* 3:140-150, Apr 1983. 8. Tennant FS, *et al*. Symposium on the Treatment of Sleep Disorders, Teleconference, Oct 16, 1984. 9. Greenblatt DJ, Allen MD, Shader RI. *Clin Pharmacol Ther* 21:355-361, Mar 1977.



**DALMANE**<sup>®</sup>  
flurazepam HCl/Roche <sup>®</sup>

Before prescribing, please consult complete product information, a summary of which follows

**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings, and/or early morning awakening in patients with recurring insomnia or poor sleeping habits. In acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

**Contraindications:** Known hypersensitivity to flurazepam HCl, pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patients to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Withdrawal symptoms rarely reported; abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase, and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage, 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

**Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl.

**ROCHE**<sup>®</sup> Roche Products Inc.  
Manati, Puerto Rico 00701



# #1 FOR SLEEP

After more than 15 years of use, it's #1 for sleep that satisfies. Patients are satisfied because they fall asleep fast and stay asleep till morning.<sup>1-8</sup> And *you're* satisfied by the exceptionally wide margin of safety.<sup>7-9</sup> As always, caution patients about driving or drinking alcohol.

Please see references and summary of product information on reverse side.

**DALMANE<sup>®</sup>**  
flurazepam HCl/Roche <sup>®</sup>  
**sleep that satisfies**



**ROCHE**



DISPLAY  
SHELVES

FEBRUARY 1986

VOL. 79

NO. 2

# INDIANA MEDICINE

The Journal of the Indiana State Medical Association



NEW THERAPIES FOR  
UPPER GI HEMORRHAGE



10 STATE STREET  
BOSTON  
MA 02115





## **“...Your financial security specialists are on call”**

American Physicians Life believes a physician's financial security deserves specialized attention. That's why our products and services are designed with the doctor in mind. Our comprehensive portfolio of services, including life insurance, professional disability income coverage, qualified plans and tax-deferred annuities, is customized to meet your personal financial planning needs as well as those of your professional corporation.

Let American Physicians Life secure your financial planning program—that's our specialty!

For more information contact:  
Williams/Townsend Associates  
8900 Keystone Crossing, Suite 500  
Indianapolis, Indiana 46240  
(317) 844-3119

Endorsed by the  
Indiana State Medical Association



**AMERICAN PHYSICIANS LIFE**

Bates Drive, P.O. Box 281  
Pickerington, Ohio 43147  
Telephone (614) 864-3900

Toll-free in Ohio, 1-800-282-7515  
Toll-free outside Ohio, 1-800-742-1275



# INDIANA MEDICINE

Vol. 79, No. 2  
FEBRUARY 1986  
The FRANCIS & TAYLOR  
LIBRARY OF MEDICINE  
BOSTON, MA  
Feb 24 1986  
devoted to the interests of the medical pro-  
fession and public health in Indiana since  
1908

## SCIENTIFIC ARTICLES

CME: Bronchopulmonary  
Dysplasia 113

Chronic Discoid Lupus  
Erythematosus with  
Widespread Skin Involvement 150

## CRITICAL CARE MEDICINE

Upper GI Hemorrhage:  
New Therapies 152

Juvenile-onset  
Diabetes Mellitus 159

## PD CRITICAL CARE

Unusual Causes of  
Life-Threatening Upper  
Airway Obstruction 165

Congestive Cardiomyopathy:  
Treatment Advances 168

Malignant Otitis Externa 172

CPC: 42-Year-Old Man  
with Fever and  
Pulmonary Infiltrates 177

## FEATURES

NIH Consensus Reports 183

Public Attitudes Toward  
Physicians: An AMA Survey 184

## DEPARTMENTS, MISCELLANEOUS

Medical Museum Notes 132

What's New? 134

Future File 136

Cancer Corner 138

Drug Names 171

CME Quiz 187

Editorials 188

Book Reviews 192

Auxiliary Report 194

News Notes 201

Obituaries 208

ISMA's Leadership 210

USPS 284 440  
ISSN 0746-8288

## OFFICE OF PUBLICATION:

3935 N. Meridian St.,  
Indianapolis, Ind. 46208  
Tel: (317) 925-7545

INDIANA MEDICINE (ISSN 0746-8288) is  
published monthly by the Indiana State  
Medical Association. Second class  
postage paid at Indianapolis, Ind.

POSTMASTER: Send address changes to  
INDIANA MEDICINE, 3935 N. Meridian  
St., Indianapolis, Ind. 46208.

Yearly subscription rates: \$20 domestic,  
\$22 Canada, \$23 foreign. Library rates:  
\$18 domestic, \$20 Canada, \$21 foreign.  
Senior ISMA members and full-time

medical students - \$10. Single copies not  
available. Subscriptions are renewable  
annually.

Views expressed do not necessarily  
reflect the opinions of the editors. No  
copyright is claimed, unless specifically  
indicated. Copyright rests solely with  
authors, who are responsible for state-  
ments made in their articles. Scientific  
and editorial contributions are accepted  
for exclusive publication, subject to  
editorial requirements. Publication dead-  
line: 1st day of month preceding month  
of issue. Instructions for authors avail-  
able upon request.

All issues since 1967 are available on  
microfilm from University Microfilms In-  
ternational, 300 N. Zeeb Rd., Ann Ar-  
bor, Mich. 48106. Indexed in Index  
Medicus and Hospital Literature Index.

Advertising rates and data available  
upon request.

## EDITOR

Frank B. Ramsey, M.D.

## BUSINESS MANAGER

Donald F. Foy

## MANAGING EDITOR

Martin T. Badger

## CIRCULATION MANAGER

Sheryl A. Mahoney

## EDITORIAL BOARD

Alvin J. Haley, M.D.

Alan T. Marty, M.D.

(Terms expire Dec. 31, 1986)

Thomas J. Conway, M.D.

I.E. Michael, M.D.

(Terms expire Dec. 31, 1987)

Elton Heaton, M.D.

Nancy C. A. Roeske, M.D.

(Terms expire Dec. 31, 1988)

Kevin A. Ault

Richard E. Blackburn

Robert S. Flint II

(Terms expire Dec. 31, 1986)

## CONSULTING EDITORS

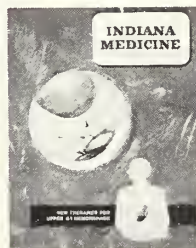
Steven C. Beering, M.D., Charles A.

Bonsett, M.D., Rodney A. Mannion, M.D.,

Lall G. Montgomery, M.D., Paul S.

Rhoads, M.D., W.D. Snively, M.D., I.W.

Wilkins, M.D.



## ABOUT THE COVER

Upper gastro-intestinal hemorrhage is a problem for which  
there has been no improvement in therapy or outcome for  
many years. Today, newer endoscopic therapeutic  
modalities are promising. For a closer look at this aspect  
of Critical Care Medicine, see "Upper GI Hemorrhage: New  
Therapies," page 152.—DRAWING BY BRENDA KESTER.  
MEDICAL MEDIA PRODUCTIONS, METHODIST HOSPITAL OF  
INDIANA.

# MEDICAL MUSEUM NOTES



CHARLES A. BONSETT, M.D., Indianapolis

## The Lafayette Doctor Who Helped Pioneer Postgraduate Medical Education in Indiana

**T**HIS MONTH'S page of Notes pays tribute to Dr. Harry E. Klepinger of Lafayette, now retired. He practiced in Lafayette for 58 years, during which he performed yeoman's service in upgrading postgraduate medical education for the Indiana physician.

Dr. Klepinger was born April 16, 1901 in Tippecanoe County. He received his M.D. degree in 1927 from the Indiana University School of Medicine, after which he did his internship and one year of residency at St. Elizabeth Hospital of Lafayette (1927-1929) (Figure 1).

Dr. Klepinger was instrumental in establishing the Lafayette Academy of Medicine in the 1930s. In 1933 he was elected a charter member of the Academy (Figure 2).

During the 1940s, in cooperation with the Tippecanoe County Medical Society and the Indiana University School of Medicine, Dr. Klepinger was instrumental in establishing a four-year basic science course at St. Elizabeth Hospital. Unique for the time, this included a monthly telephone seminar between the hospital and IUSM.

In 1945 the ISMA House of Delegates approved the formation of the Indiana Board of General Practice, and Dr. Klepinger was named president. He then participated in the national effort to establish an academy and board for family practice. During his later years, he served as Medical Director of the Skilled Nursing Department of Lafayette's Home Hospital (Figure 3).

Acknowledgments: Thanks to Lafayette's Home and St. Elizabeth Hospitals and to Harold Trout, Ed.D., and E. L. VanBuskirk, M.D., for photographs, reprints and biographical data.



Dr. Klepinger

## The Lafayette Academy of Medicine



*Be it known to all to whom these letters may come that*  
**Harry Edwin Klepinger, M.D.**  
*has been elected a Charter Member of*  
**The Lafayette Academy of Medicine**  
*In witness whereof the Seal of the Academy and the signatures of the*  
*proper officers are affixed.*  
*Given in the City of Lafayette this 22nd day of October.*



*W. W. Washburn, M.D.*  
*President*  
*R. A. Flack, M.D.*  
*Secretary*

FIGURE 2



FIGURE 1: St. Elizabeth Hospital, circa 1900.



FIGURE 3: Lafayette Home Hospital.

# E.F. HUTTON & COMPANY INC. OFFERS COMMISSION FREE PROFESSIONAL PORTFOLIO MANAGEMENT.

Hutton Consulting Services offers you the same professional money management services normally available only to large accounts.

And to help your investments meet your objectives, your local Hutton Consulting Services representatives are backed by the vast resources and trading skills of E.F. Hutton nationwide. They also have access to a variety of financial data individuals normally wouldn't have.

To learn more about Hutton Consulting Services, its fee structure and qualification standards, please call E.F. Hutton at



E. F. Hutton & Company, Inc.

Member SIPC

*When E.F. Hutton talks, people listen.*

For more information, please contact:

COLOMBO MARCO BALDINI

or

DAVID J. BRANDVIK

Consulting Services Specialists

E.F. Hutton & Company, Inc.

One American Square

Suite 180

Indianapolis, IN 46282

Telephone: (317) 632-6300

Indiana Toll Free: (800) EFH-6300

Outside Indiana, Toll Free: (800) EFH-INDI



# WHAT'S NEW?

Wampole Laboratories announces an addition to its Bactigen® line of tests for the rapid diagnosis of bacterial antigens. Now available is the Bactigens Group A Streptococcus, a rapid latex agglutination slide test for the qualitative detection of Group A streptococcal antigen directly from throat swabs. Results are available in 7 minutes as compared with 24 to 48 hours required for conventional culture methods. The test has achieved 97.4% overall clinical accuracy.

Hewlett-Packard announces a revision of their phased-array ultrasound imaging system (Model 77020) to improve image quality, particularly for radiology, ob/gyn, abdominal, neonatal and shared-clinical services applications. Clinical trials showed as much as 30% improvement in image quality as a result of this revision.

Syntex has FDA approval to market Femstat, the first three-day cream for treatment of yeast infections. Three-day treatment is recommended for vaginal yeast infections in non-pregnant patients—in pregnant patients six day treatment is recommended. Femstat is odorless, greaseless and non-staining and needs only to be administered once a day before bedtime for most patients.

Airco Medical Gases has published a brochure which lists and explains the 10 most important questions to ask a medical gases supplier before ordering. The brochure is a part of a broader educational effort to raise awareness of the attention required in the purchase of prescription gases and devices and the quality differences among suppliers.

Wampole Laboratories' Virogen® Rotatest™ is a rapid latex agglutination slide test for the qualitative detection of rotavirus in fecal samples. Rotavirus is the most common cause of infantile gastroenteritis. This highly accurate, rapid assay requires less than 4 minutes hands-on time with results in 17 minutes. A control latex assures accurate results.

Mentor O&O has a new wipe for surgical instruments that will not leave lint or debris on the instrument where it can interfere with the use of the instrument or become stranded in the wound. The wipes are made from PVP, especially formulated to prevent shedding. It retains moisture longer than do natural fibers.

Smith Kline & French announces the availability of Tagamet in a sterile, single-dose, premixed Viaflex® Plus plastic container. The new I.V. delivery system provides added convenience and reduces the possibility of contamination or medication errors.

To discover what factors influence the success or failure of a health care delivery system, study the details of management of a plan that fails. "A Case Study of United Healthcare," published by the Kaiser Family Foundation, is a report by researchers of the University of Washington. It chronicles the development and demise of UHC, which operated in Washington, Utah and northern California from 1974 to 1982.

Wampole Laboratories announces the availability of the VIROGEN® HERPES Slide Test, a new test for herpes simplex. The test is simple enough to be used in a physician's office, and can deliver reliable results in as little as 30 minutes. The sensitivity rate was 92% for direct testing of active lesions and 98% for cell culture specimens. The specificity for direct testing was 98% and 100% for culture testing.

News of what is new in the medical supply industry is composed of abstracts from news releases by book publishers and manufacturers of pharmaceuticals, clinical laboratory supplies, instruments and surgical appliances. Each item is published as news and does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

Atomic Products Corporation announces a new system. The Thyroid Uptake System II is an easy to operate, accurate device for thyroid measurement. All measurements are automatically decay corrected, including final uptake percentage. Data output is displayed graphically on the video monitor or can be turned into hard copy with an optional printer.

"On With Living, Inc." is a nonprofit corporation which produces a video tape library of conversations of persons successfully coping with life-threatening illnesses or other life tragedies. The tapes are organized into a lending library for rental of tapes to individuals, doctors, hospitals and hospice organizations. The 3M Corporation has supplied video cassettes free of charge and On With Living serves as a clearinghouse for distribution.

Collaborative Research announces major new advances in restriction fragment length polymorphisms (RFLPs). The laboratory has found 500 polymorphisms, more than doubling the previous number ever reported. Twenty-nine of these 500 are among the most polymorphic human markers known and will significantly facilitate tracing the inheritance of certain chromosomes in families. The making of a comprehensive map of the entire human genome will soon be possible. Such a map could offer science the capability of diagnosing literally thousands of inherited diseases, including some forms of cancer, heart disease, diabetes and many others.

SmithKline Bio-Science Laboratories introduces New HemoQuant™ Fecal Blood Assay. The new test measures both digested and undigested hemoglobin and therefore detects blood not only from the lower regions of the colon but in all gastrointestinal sites. HemoQuant is sensitive to less than 0.01 mg of hemoglobin equivalent/gm of feces. The test is not affected by iron salts, ascorbic acid, salicylates, alcohol or cimetidine. There are no known chemical false-positives.



CALL US  
FOR YOUR  
FREE  
1986  
CATALOG

## Let your patients shop at home for healthcare products

Our free catalog has 52 pages of everything from hospital beds to wheelchairs to specialized exercise equipment. All delivered to your patients' homes by one of America's largest and most dependable suppliers. Your patients can order by mail or toll-free phone. They'll

get fast service and expert consultation. They can also order from the catalog at the pharmacy counter of any Peoples Drug Store.

Many physicians find it useful to have a copy of our catalog for reference and patient instruction.



Let us send you our new catalog: phone toll-free 800-368-4243.

# FUTURE FILE

## Microcomputers

"Microcomputer Jungle: Impact on Health Care" is the subject of a CME seminar scheduled for April 17 and 18 at the Doubletree Hotel, Overland Park, Kansas. It is sponsored by the University of Kansas Medical Center.

The correspondent is Carole Rosen, Office of Continuing Education, 39th and Rainbow Blvd., Kansas City, Kan. 66103—(913) 588-4480.

## Seizure Disorders

"Current Aspects of Seizure Disorders" is the subject of a CME course to be conducted March 26 at the Holiday Inn, City Center, Chicago.

Contact University Office of CME, Rush University, 600 S. Paulina, Chicago 60612—(312) 942-7095.

## Clinical Hypnosis

The American Society of Clinical Hypnosis will hold its 28th Annual Workshops and Scientific Program March 17 to 21 at the Westin Hotel, Seattle, Wash.

CME credits will be available. Workshops will be offered at Basic, Intermediate and Advanced levels.

For full information, contact the Society at 2250 E. Devon Ave., Suite 336, Des Plaines, Ill. 60018—(312) 297-3317.

## Allergy Training

The 1986 Pan American Allergy Society Training Course and Seminar meets March 5 to 9 at the San Antonio, Texas Four Seasons Hotel.

Registration fees are \$395-\$450 for the full program, \$265-\$300 for the Training Course March 5 to 7, and \$130-\$150 for the Seminar on Pediatric Allergy March 8. The fee is waived for qualified medical residents. Approved for 31 hours CME credit.

For details, call or write Betty Kahler, Pan American Allergy Society, 229 Parking Way, Lake Jackson, Texas 77566—(409) 297-8964 or 297-4069.

## Medical Informatics

The 5th World Congress on Medical Informatics will meet in Washington, D.C. Oct. 26 to 30 under the title, "Medinfo 86 Washington."

Papers are being called for. The categories are Research; Descriptive Paper; Opinion, Review or Analytical Paper; and Abstract of Scientific Demonstration.

For details, contact Medinfo 86 Secretariat, c/o George Washington University Medical Center, CME Office, 2300 K St., N.W., Washington, D.C. 20037—(202) 676-8929.

## Management Seminars

"Physicians in Management Seminars I & II" will be conducted by the American Academy of Medical Directors March 24 to 28 at the Bellevue Biltmore in Clearwater, Fla. The instruction is accredited for 31 CME hours.

For more information, contact Sherry Mason at the Academy, 4830 W. Kennedy Blvd., Suite 648, Tampa, Fla. 33609—(813) 873-2000.

## Pediatrics Lecture

The Kareem B. Minhas Memorial Lectureship will be held Friday, April 4, at 8 a.m. in the Second Floor Auditorium, Kosair-Children's Hospital, Louisville.

Jacqueline Noonan, M.D., chairman and professor of pediatrics at the University of Kentucky, will speak. The meeting, sponsored by the University of Louisville, qualifies for one hour of Category 1 credit.

The *Journal of the American Medical Association* publishes a list of CME courses for the United States twice yearly. The January listing features courses offered from March through August; the July listing features courses offered from September through February.

## Evansville Seminars

The Spring Seminar Schedule of St. Mary's Medical Center in Evansville will include:

Feb. 20—Oncology Seminar Part VII on Cost of Cancer Care, 1-5 p.m.

March 20—Annual MacKenzie Seminar on Controversies in Obstetrics and Gynecology, 1-5 p.m.

April 17—Geriatrics Seminar Part II on the Brain and the Heart, 1-5 p.m.

May 15-16—First International Meeting of Gamma Med Users, 9 a.m.-4 p.m.

For more information, contact Al Korba, M.D., St. Mary's Medical Center, 3700 Washington Ave., Evansville, Ind. 47750—(812) 479-4182.

## Nutritional Support

"The ABC's of Parenteral and Enteral Alimentation" will be presented Wednesday, Feb. 26, from 8:30 a.m. to 4 p.m. at the Adam's Mark Hotel, Indianapolis.

Registration fee is \$35; for residents in training, \$10. This conference will provide basic knowledge of nutritional support therapies and techniques for physicians, nurses, pharmacists and dietitians.

For more information, call the Medical Education Dept., Community Hospital of Indianapolis—(317) 353-4269.

## Surgical Health Policy

A two-day symposium on "Surgical Health Policy" will be conducted by the Dept. of Surgery of Long Island Jewish Medical Center at the Waldorf Astoria May 15 and 16.

The tuition is \$300. The meeting will be directed to an audience of surgeons, public health professionals, hospital administrators, and industry representatives concerned with surgical health policy and cost.

Contact Ann J. Boehme, Long Island Jewish Medical Center, New Hyde Park, N.Y. 11042—(718) 470-8650.



# It's not getting any easier to practice medicine.

*As a physician involved in today's growing medical community, you are faced with the increased involvement of the third party.*

Complex, changing rules and regulations far too often result in disputed billings, inconsistent third party reimbursement and slow payment.

Management of your office and accounts receivable can often require more of your time than can be reasonably allocated without neglecting your practice.

**Medical Accounts Group, Inc.** recognizes the needs of Indiana's medical community, and provides accounts receivable management to meet individual needs in an efficient and cost effective manner.

Highly qualified professionals assist you in developing tailored solutions to your office management problems. Expertise in a broad range of service products includes data processing, third party interface, patient accounts management, turnkey installation and support, and complete office management.

We invite you to call for further information on the **Medical Accounts Group** and allow us the opportunity to demonstrate our services to you.



## **MEDICAL ACCOUNTS GROUP, INC.**

1835 North Meridian • Indianapolis, Indiana 46202 • (317) 923-3046 • 1-800-468-1018 (in Indiana)

**Serving Indiana's Growing Medical Community**

# CANCER CORNER

WILLIAM M. DUGAN, JR., M.D.

Clinical Oncology Center, Methodist Hospital of Indiana

**Major Advances in Oncology:** The R. Livingston Ireland Cancer Center, University Hospitals of Cleveland, is presenting an education symposium for oncology specialists and other M.D.s interested in the latest advances in cancer management, Saturday, April 12, 1986. The topics will be *Treatment of Metastatic Breast Cancer* by Joseph Allegra, M.D., University of Louisville, Louisville, Ky., and *Adjuvant Therapy of Breast Cancer—Practice Implications* by Stephen Carter, M.D., Bristol-Myers Company, New York, N.Y. For additional information, contact Barbara Guy, Administrative Assistant to the Director, 2074 Abington Rd., Cleveland, Ohio 44106, Phone 216-844-7856.

**Monoclonal Antibody immunocongulates** for clinical use in cancer will be the subject of an international conference to be held March 6-8, 1986 in San Diego. Presentations will include the latest results of clinical trials using monoclonal antibodies linked to isotopes, drugs and toxins for cancer therapy and detection. Four half-day sessions will focus on radioimmuno-detection, radioimmunotherapy, chemioimmunotherapy and immunotoxins. For more information, contact Cynthia Saxe, University of California, San Diego Office of Continuing Medical Education, 619-452-3940.

The American Cancer Society is currently working on its 1986 "I CAN COPE" classes. Dates and locations are tentative at this time; however, the next class will be sometime in March 1986. For further information on specific date and location, call Melody Dian, American Cancer Society, 317 923 2225.

The I Can Cope Education Series gives patients and their families the opportunity to acquire information about their disease, diagnostic procedures, treatment and self-care management. The importance of attitude is explored

and many resources available to you in your community are identified.

**Scripps Clinic and Research Foundation** is presenting a seminar on Clinical Hematology and Oncology February 17-19, 1986. Registration is limited. For further information, call Bonny Mower (619) 457 8556.

This course is designed for hematologists, oncologists, internists, pediatricians and pathologists interested in these areas. It will aid clinicians in sorting out the important from the trivial and will help identify those recent advances that appear to be withstanding the test of time.

The LSA Medical Conference is presenting its Second National Symposium on Leukemias & Lymphomas March 20-22, 1986 in Tampa, Florida. Registration MUST be received by March 12, 1986 and registration fee MUST accompany advance registration. For further information, call 312-644-0828.

This program is designed for physicians, nurses, allied professionals, fellows in training, residents and students with major interest and involvement in leukemia and its biology. The program will address current information, new approaches and emerging studies of the disease. Emphasis will focus on the application of basic science rather than on a hands-on approach.

Cutter Biological is offering two articles for physicians interested in information for hemophilic patients and AIDS. Listed below are data on both sources:

- Division of Miles Laboratories, Inc. is offering a comprehensive audio-visual kit, free of charge, designed to inform patients about hemophilia and today's treatment, and to reassure them that there is no danger of AIDS transmission from factor infusions. The

kit includes 60 slides, a 10-minute audio-cassette, and patient information pamphlets to support your presentation. For more information, write Cutter Biological, Division of Miles Laboratories, Inc., 2200 Powell St., Emeryville, Calif. 94662.

- The second offering is through Phoenix Marketing Group, Inc. They have a brochure, compliments of Cutter, which summarizes two in vitro inactivation studies. The brochure is titled "Inactivation of AIDS associated Viruses in Antihemophilic Products: The Effectiveness of Heat Treatment" and is available by writing Phoenix Marketing Group, Inc., Cutter Biological, 31 Kulick Road, Fairfield, N.J. 07006.

The National Cancer Institute has a Breast Cancer Patient Education Series available to physicians. This series is designed to help women, their families and friends understand more about breast cancer at eight key intervention points, from breast evaluation to advanced disease. This series can be used in two ways: 1) You can select only those booklets that pertain to your patient and her stage of treatment, or 2) you can give your patient the complete series, which gives a comprehensive view of breast cancer. For information about this series and other cancer-related publications, write to: Breast Cancer Education Program, Office of Cancer Communications, National Cancer Institute, Building 31, Room 10A18, Bethesda, Md. 20205.

**Preventive Health Tips from the National Cancer Institute (NCI):** The NCI believes eating the right foods may reduce your risk of some kinds of cancer. Here are their recommendations: 1) Eat high fiber foods, 2) Eat foods low in fat, 3) Eat fresh fruits and vegetables, and 4) Eat a well-balanced diet and avoid being over or underweight.





*YEARS OF  
CONFIDENCE*

**Thank you for your loyal support**

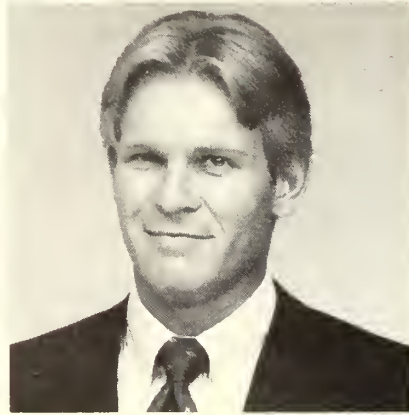
**DYAZIDE®**

**25 mg Hydrochlorothiazide/50 mg Triamterene/SKF**

**SK&F CO.**



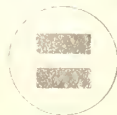
# Everybody deserves a chance to make it on their own.



## Everybody.



The National Urban League is dedicated to achieving equal opportunity for all. And you can help. Contact your local Urban League or write:



**National Urban League**

500 East 62nd Street  
New York, N.Y. 10021



A Public Service of This Publication



If you recognize Tad's father, you'll recognize the name of one of the largest life insurance companies in America.

Lincoln. It's a name you'll remember.

**B**enefits available to members of the Indiana State Medical Association and their employees through expanded ISMA group sponsored Lincoln National Life health insurance coverage:

#### **MEDICAL PLAN 1**

- 365 Days of Inpatient Hospital Care
- 100% payment semi-private or hospital ward room including the cost of blood
- 365 Days In-Hospital Medical Care
- Reasonable and Customary allowances for surgery, maternity, general anesthesia, medical visits, and radiation therapy
- \$500 Supplemental Accident
- Unlimited Major Medical Benefits

#### **MEDICAL PLAN 2**

- Comprehensive Major Medical expense protection—\$500 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 3**

- Comprehensive Major Medical expense protection—\$250 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 4**

- Low cost comprehensive Major Medical expense protection—\$2,000 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **NEW DENTAL PLAN**

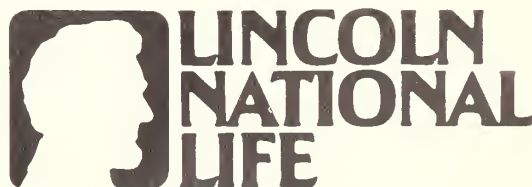
- Reasonable and Customary allowances for necessary care and treatment for dental health
- \$1,500 Maximum Dental Benefit per person in a Calendar Year

The Lincoln National Life Insurance Company is most pleased to be underwriting the Group Medical and Dental Programs for the Indiana State Medical Association. Your benefit programs have been designed to provide the highest quality coverage and service at the lowest possible cost. A special claim paying unit has been established in our Indianapolis Group Benefits and Service Office to handle only the ISMA program. Should you have questions or problems, you may speak directly to your claim processor at 317-846-6211/800-692-6014. We look forward to serving your association and encourage your review of the programs and services being provided.

**F**or more information call or write:

James D. Townsend or Earl W. Williams  
Professional Account Representatives  
8900 Keystone Crossing, Suite 500  
Indianapolis, Indiana 46240  
(317) 846-7502 or (317) 844-3119  
1-800-428-7105 Toll Free Outside Indiana

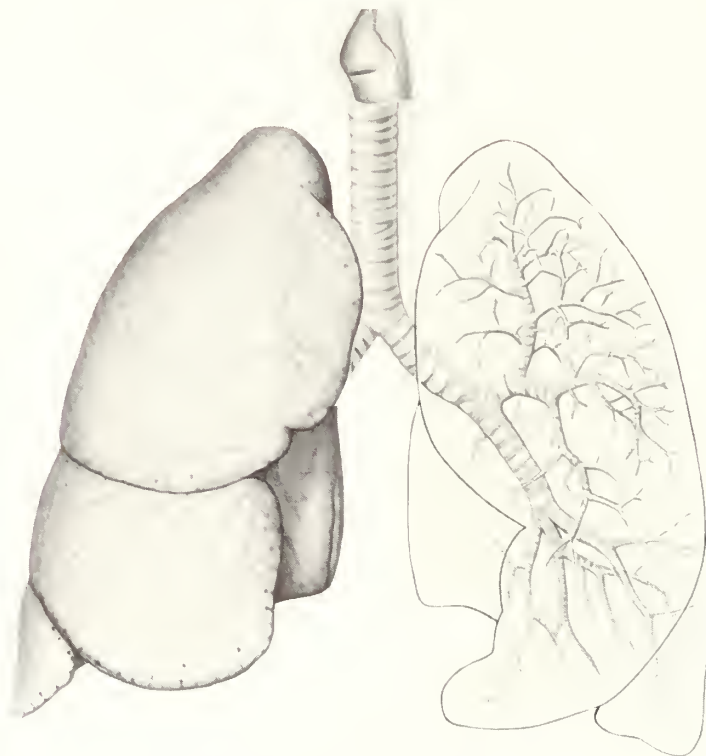
Tom Martens  
Director, Health Insurance Administration  
Indiana State Medical Association  
3935 North Meridian Street  
Indianapolis, Indiana 46208  
(317) 926-4424  
1-800-382-1721



*The Lincoln National Life Insurance Company  
Fort Wayne, Indiana  
A member of Lincoln National Corporation.*



# Consider the causative organisms...



## Cecilor<sup>®</sup> cefactor

### 250-mg Pulvules<sup>®</sup> t.i.d.

## offers effectiveness against the major causes of bacterial bronchitis

*H. influenzae*, *H. influenzae*, *S. pneumoniae*, *S. pyogenes*  
(ampicillin-susceptible) (ampicillin-resistant)

**Brief Summary** Consult the package literature for prescribing information.

**Indications and Usage** Cecilor (cefactor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Acute bacterial sinusitis, including pneumonia caused by *S. pneumoniae*, *S. pneumoniae*, *H. influenzae*, and *S. pyogenes*; Group A beta hemolytic

*Streptococcus*; and community-acquired pneumonia caused by *S. pneumoniae*, *S. pneumoniae*, *H. influenzae*, and *S. pyogenes*.

Ampicillin-susceptible and ampicillin-resistant studies should be performed to determine the susceptibility of the causative organism.

**Contraindication** Cecilor is contraindicated in patients with known allergy to cephalosporins or penicillins.

**Warnings** Cecilor (cefactor, Lilly) should be administered CAUTIOUSLY in patients with a history of allergic reactions to penicillins and the cephalosporins. THERE ARE INSTANCES IN WHICH ANAPHYLACTIC REACTIONS HAVE OCCURRED.

Cecilor should be administered CAUTIOUSLY in patients with a history of allergy to cephalosporins.

Cecilor should be administered CAUTIOUSLY in patients with a history of allergy to cephalosporins.

Cecilor should be administered CAUTIOUSLY in patients with a history of allergy to cephalosporins.

Cecilor should be administered CAUTIOUSLY in patients with a history of allergy to cephalosporins.

Cecilor should be administered CAUTIOUSLY in patients with a history of allergy to cephalosporins.

ment should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

**Precautions** General Precautions — If an allergic reaction to Cecilor (cefactor, Lilly) occurs, the drug should be discontinued and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Cecilor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Cecilor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Cecilor, a false positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinistix<sup>®</sup> tablets but not with Tes-Tape<sup>®</sup> (Glucose Enzymatic Test Strip USP, Lilly).

Broad spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

**Usage in Pregnancy** — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in fetuses given three times the maximum

human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Cecilor (cefactor, Lilly). There are, however, no adequate and well controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

**Nursing Mothers** — Small amounts of Cecilor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.16, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Cecilor is administered to a nursing woman.

**Usage in Children** — Safety and effectiveness of this product for use in infants less than one month of age have not been established.

**Adverse Reactions** Adverse effects considered related to therapy with Cecilor are uncommon and are listed below.

**Gastrointestinal symptoms** occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

**Hypersensitivity reactions** have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthritis and frequently fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Cecilor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have

occurred in patients with a history of penicillin allergy. Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

**Causal Relationship Uncertain** — Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

**Hepatic** — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

**Hematopoietic** — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

**Renal** — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

(061782R)

**Note** Cecilor (cefactor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

© 1984, ELI LILLY AND COMPANY

Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

Eli Lilly Industries, Inc., Carolina Puerto Rico 00630.

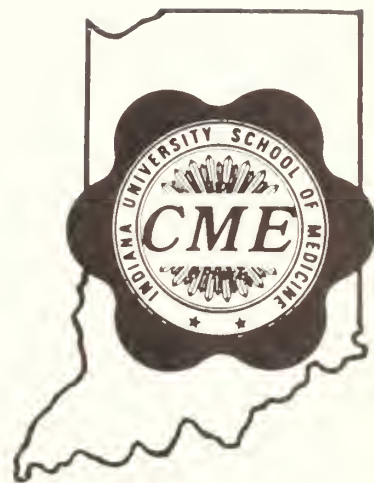
100-044



INDIANA MEDICINE offers its readers a Continuing Medical Education series of articles prepared by the faculty of the Indiana University School of Medicine. The program is coordinated and supported by a grant from the school's Division of Continuing Medical Education.

As an organization accredited for continuing medical education, the Indiana University School of Medicine certifies that this CME activity meets the criteria for one credit hour in Category 1 for the Physician's Recognition Award of the American Medical Association, provided it is used and completed as designated.

To obtain Category 1 credit for this month's article, complete the quiz on page 187.



## Bronchopulmonary Dysplasia

---

ANNE Z. MARNOCHA, M.D.  
JAMES A. LEMONS, M.D.  
ROBERT S. TEPPER, M.D.  
Indianapolis

---

**B**RONCHOPULMONARY DYSPLASIA (BPD) is a relatively new disease entity that occurs in newborn infants and was first described by Northway *et al* in 1967.<sup>1</sup> Coincident with the improved survival of infants with severe respiratory distress in the neonatal period, BPD has emerged as a major problem in most neonatal intensive care nurseries throughout the world.

BPD is characterized by chronic pulmonary insufficiency, which develops in infants who have required respiratory support in the newborn period and who then develop chronic radiographic changes associated with a persistent oxygen requirement.

Specific diagnostic criteria for this entity are lacking and, therefore, incidence figures vary widely among published studies. Different investigators have reported that between 2.5<sup>2</sup> and 68%<sup>3</sup> of infants who are ventilated for hyaline membrane disease (HMD) develop BPD. Most

newborn intensive care units indicate that approximately 10-20%<sup>4\*</sup> of infants requiring respiratory assistance for HMD develop some evidence of chronic disease consistent with BPD. These values are similar to the incidence of BPD observed at the James Whitcomb Riley Hospital for Children.

This disease entity poses a challenge for caretakers of infants in the neonatal intensive care unit, as well as for those physicians who care for these infants during infancy and childhood. Complications are both of an acute and chronic nature, are often severe and present both diagnostic and therapeutic dilemmas. However, with early recognition and intervention for specific problems, the long-term outlook for these infants is generally good.

In this brief review, we wish to summarize current information about this complex illness and important factors to consider in the management of these infants, both in the hospital and as out-

---

From the Sections of Neonatal-Perinatal Medicine and Pediatric Pulmonary Disease, Dept. of Pediatrics, Indiana University School of Medicine and the James Whitcomb Riley Hospital for Children, Indianapolis, Ind.

Correspondence: Anne Z. Marnocha, M.D., Dept. of Pediatrics, Indiana University School of Medicine, 702 Barnhill Drive, Indianapolis, Ind. 46223.

patients. It is extremely important that caretakers of these infants be familiar with the unique and challenging problems characteristic of BPD.

### Etiology

A variety of factors have been associated with the development of BPD. However, it is generally accepted that the two most important factors include: 1) the amount and duration of supplemental oxygen therapy,<sup>9,10</sup> and 2) the degree of ventilatory support required and barotrauma sustained during positive pressure ventilation.<sup>11,17</sup>

Oxygen toxicity results in damage to the airways (large and small), the gas exchange surfaces (alveoli) and the vascular structures (capillary endothelium). It is well documented that the inspired oxygen tension (rather than the blood oxygenation) correlates with the potential for lung damage.<sup>17</sup> Infants requiring high inspired oxygen concentrations for prolonged periods of time to maintain adequate blood oxygenation are much more susceptible to developing chronic lung disease than those requiring low inspired oxygen concentrations and relatively brief periods of supplemental oxygen.

Endotracheal intubation with intermittent positive pressure ventilation constitutes the other major factor in the pathogenesis of BPD.<sup>12</sup> Evidence suggesting that the administration of high oxygen concentrations is not the sole etiologic agent in the development of BPD is found in those infants with prolonged oxygen requirements on nasal continuous positive airway pressure who do not develop chronic lung disease.<sup>14</sup> In addition, prior to the routine use of positive pressure ventilation, those infants supported by negative pressure ventilation and not requiring intubation apparently did not develop BPD despite the administration of high oxygen concentrations, often up to 100%.<sup>15</sup> It is not known which aspects of positive pressure ventilation increase the risk of barotrauma and the development of BPD: peak inspiratory pressure, ventilator rate, in-

spiratory time (length of time the inspiratory pressure is applied), inspiratory waveform (which determines the length of time during inspiration that the airways are exposed to the peak inspiratory pressure), or expiratory pressure. Each of these may play a role, insofar as they all contribute to an increase in the mean airway pressure (MAP).

It is presently not known whether the presence of a patent ductus arteriosus (PDA),<sup>16</sup> excessive parenteral fluid administration during the acute stages of HMD,<sup>17</sup> the presence of interstitial air,<sup>18</sup> or the degree of prematurity<sup>19</sup> are primary factors in the development of BPD or are secondarily important because of the increased requirements for respiratory support.

As not all infants who require substantial oxygen and/or ventilatory support develop chronic lung disease, other factors may also be involved in the pathogenesis of BPD. These may include nutritional deficiencies (e.g., vitamin E deficiency),<sup>20</sup> secretion retention with local infection,<sup>11</sup> immunologic variables and genetic predisposition.<sup>21</sup> In this regard, a recent study by Clark *et al.*<sup>22</sup> has suggested an association between certain HLA types and a predisposition to developing chronic lung disease. One investigation has demonstrated an increased incidence of a positive family history for asthma or allergies in infants who develop BPD.<sup>21</sup>

### Pathophysiology

Development of the lungs is a long process that progresses not only throughout gestation but also into infancy and early childhood. The lungs begin as a single bud, an out-pouching off the esophagus, which divides to form two bronchopulmonary buds. These buds differentiate into the mainstem bronchi and grow laterally into the primitive pleural cavities. The bronchi then undergo progressive dichotomous branching so that, by 16 weeks gestational age, the major air

conducting structures of the lungs are formed. At approximately 24 weeks of gestation, the respiratory bronchioles are formed and give rise to three to six sacculations or alveolar ducts. From 24 weeks to birth these alveolar ducts give rise to primitive pulmonary alveoli which, in fact, are simply clusters of thin-walled terminal air sacs. Prior to 24-26 weeks gestational age the lungs generally are unable to provide adequate gas exchange, because the alveolar surface area is insufficient, the vascularity is underdeveloped and the diffusion distance from capillary to air sac is too great. From 26 weeks gestational age to birth the cuboidal epithelium lining the air sacs becomes attenuated to the thin squamous epithelium present in mature pulmonary alveoli, concomitant with closer proximity of capillary beds, thus permitting efficient gas exchange. At birth only 1/8 to 1/6 of the total number of adult pulmonary alveoli are present. The alveoli proceed to increase in number until about eight years of age.<sup>23</sup>

In premature infants this normal process of intrauterine growth and development is disrupted. It is unknown whether infants with mild uncomplicated HMD continue with normal lung development. On the other hand, those who develop BPD show definite lung damage involving the large and small airways, the alveoli and the vascular tissues. The lung damage in BPD, based upon previous pathologic studies, is characterized by perivascular, interstitial and intraalveolar edema and hemorrhage leading to extensive necrosis. The reparative process involves bronchial metaplasia, interstitial fibrosis, basement membrane thickening, atelectasis and failure of the alveoli to regenerate mature epithelium. The alveolar spaces are often obliterated, resulting in scar formation or condensed lung tissue.<sup>1,24</sup>

### Clinical Features

An infant with BPD most commonly presents as a premature baby with HMD who initially requires oxygen and

ventilator support, improves by one to two weeks of age, but then plateaus and often deteriorates over the next several weeks or months. Initial chest x-rays show the diffuse granularity (ground glass appearance) consistent with HMD that progresses over time to reveal chronic lung changes, seen as cystic areas of air trapping interspersed with areas of infiltrate, scarring and atelectasis.

In managing infants with BPD, a number of problems may be anticipated based on clinical characteristics of the disease: chronic respiratory distress, hypoxemia, cor pulmonale, reactive airway disease, recurrent respiratory infections, impaired nutrition and growth, developmental delay and occasionally systemic hypertension.<sup>25</sup> Management of the respiratory problems of infants with BPD is multifaceted. Weaning from oxygen and the ventilator is usually a prolonged process which may be discouraging to parents and caretakers alike. Infants who continue to require ventilatory assistance may not tolerate a reduction in ventilator rate or peak inspiratory pressure without becoming more tachypneic or distressed with the increased work of breathing. In addition, their arterial partial pressure of carbon dioxide ( $p\text{CO}_2$ ) may increase rapidly with minimal changes in ventilator settings. Small downward changes in inspired oxygen concentration ( $\text{FiO}_2$ ) may result in a precipitous decrease in arterial partial pressure of oxygen ( $p\text{O}_2$ ), presumably the result of increased pulmonary vascular resistance and secondary right to left shunting.

Accurate measurements of arterial  $p\text{O}_2$  and  $p\text{CO}_2$  are difficult to obtain during the weaning process as these infants stress very easily during blood sampling procedures, which may increase their degree of intrapulmonary shunting. Therefore, most specialists employ some form of noninvasive oxygen monitoring. Transcutaneous  $p\text{O}_2$  monitors are helpful in the acute stages of HMD as a means of monitoring the

TABLE  
Pulmonary Function Abnormalities

Increased airway resistance
Decreased dynamic pulmonary compliance
Increased lung volume
Abnormal gas exchange
Elevated minute volume
Abnormal ventilation distribution

trend of the arterial  $p\text{O}_2$ . However, when these infants reach several weeks of age, the transcutaneous monitors become less reliable. To accurately monitor oxygenation at this time, we rely upon oximetry, another noninvasive technique which measures oxygen saturation of hemoglobin and aids physicians in their assessment of oxygen requirement. Saturations are usually maintained at levels above 90% (corresponding to a  $p\text{O}_2$  of 60-65).

Maintaining adequate levels of oxygenation may require almost continuous adjustments in the inspired oxygen concentration due to the effects of routine care (feedings, fluid status, environmental temperature, physical activity, etc.) on the respiratory status of these infants. Hypoxemia resulting from the stress of a feeding or an elevated temperature is common. Such stresses, which may increase an infant's oxygen requirement, are often not tolerated well because of decreased pulmonary reserve.

Specific pulmonary function abnormalities in infants with BPD are listed in the Table.<sup>18,26,28</sup> These abnormalities resulting from fibrosis and scarring may also be influenced by the presence of interstitial edema and/or increased bronchial secretions.<sup>28</sup> A sensitive indicator of lung damage appears to be airway resistance. Infants who have recovered from HMD without apparent BPD often have increased airway resistance yet normal compliance and lung volume.<sup>29</sup> In infants who go on to develop overt BPD, there is a marked increase in airway resistance, par-

ticularly of large airways, which results in increased work of breathing and greater energy expenditure. Minute ventilation may be normal or increased, reflecting a decreased tidal volume and an increased respiratory rate. In the advanced stages of BPD, the distribution of ventilation is abnormal, indicating small airway disease as well.

Wheezing is a common finding in infants with BPD and indicates the presence of airway obstruction which can result from dynamic collapse of their airways, increased mucous secretions and bronchospasm. Bronchodilators such as theophylline are beneficial in the management of BPD infants,<sup>31</sup> but dosages must be carefully titrated using serum levels since the metabolism of theophylline is quite variable in this age group. The potential side effects of these drugs need to be remembered. A frequent complication is feeding intolerance or vomiting, more commonly seen at higher serum levels of theophylline. Bronchospasm may also be treated with inhaled beta-2 agents, such as metaproterenol, which may be associated with fewer systemic side effects than enterally administered preparations.

Because of the loss of normal ciliary function,<sup>32</sup> infants with BPD often have difficulty clearing secretions. Percussion and postural drainage treatments may be helpful, but should be performed prior to feedings since suctioning and cough with a full stomach may precipitate vomiting. Furthermore, bone demineralization often predisposes such infants to easy rib or other long bone fractures during the first months of life.

Infants who require prolonged ventilatory support (more than two to three months) often benefit from a tracheostomy.<sup>30</sup> Tracheostomies have the advantages of improving pulmonary toilet, minimizing the risk of developing subglottic stenosis and decreasing dead space ventilation. Disadvantages include the risk of sudden obstruction and the need for future



hospitalization for removal of the tracheostomy. Parents and other caretakers need to be trained in tracheostomy care prior to discharge from the hospital.

Cor pulmonale secondary to the strain placed on the right heart by the chronic lung disease, hypoxemia and pulmonary hypertension, is another complication of BPD.<sup>40</sup> Congestive heart failure (CHF) may be associated with cor pulmonale and frequently requires treatment with diuretics. Adequate long-term oxygenation can minimize the development of pulmonary hypertension, biventricular hypertrophy and cardiac failure.

Providing optimal nutrition is a major challenge in infants with BPD. They often have an increased metabolic rate secondary to their increased work of breathing, increased cardiac demands, frequent agitation, intercurrent infections and febrile episodes. Therefore, caloric requirements are high and often necessitate more than 120 Cal/kg/day to maintain weight gain. Adequate caloric intake is often limited by fluid restriction necessary to treat CHF and pulmonary edema. Therefore, high caloric density formulas (up to 1 Cal/cc or 30 Cal/ounce) made by decreasing the amount of water added to a concentrate or by the addition of medium chain triglyceride (MCT) oil or polyose are employed to maximize the caloric intake with minimal fluids. Advancement of feedings must be undertaken slowly because of the potential for feeding intolerance, especially with the higher caloric density formulas.

Gastroesophageal reflux (GER) is common in infants with severe BPD and the following may be contributory: long term nasogastric (NG) or orogastric (OG) tube feedings, abnormal lower esophageal sphincter tone, the adverse effects of theophylline, pulmonary hyperinflation and frequent coughing. Chalasias precautions are often taken in an attempt to control the degree of vomiting that occurs. Aspiration is a complication associated with GER and can be a major setback in the

respiratory status of these infants. In severe cases, infants may benefit from gastrostomy tube placement with a Nissen fundoplication.

The fluid balance of infants with severe BPD is often quite tenuous and occasionally necessitates the use of oral diuretics along with some degree of fluid restriction to prevent florid pulmonary edema. These infants must be observed closely when any changes are made in variables affecting their fluid balance. Patients who are particularly labile may require intermittent parenteral doses of diuretics. However, diuretic therapy is not without complications. Chronic furosemide administration has been associated with hyponatremia, metabolic alkalosis, bone demineralization and nephrocalcinosis. Agents such as chlorothiazide and spironolactone have fewer known side effects. Diuretic therapy has been shown to reduce airway resistance<sup>26</sup> and improve airway conductance in well controlled studies.

Delays in growth and development are common in infants with BPD.<sup>34,35</sup> Long-term follow-up in a study by Vohr *et al*<sup>5</sup> indicated that infants with BPD attain normal height or weight less frequently in the first 12 months than those infants without BPD, but by 24 to 36 months of age, there was no significant difference. Developmental delays, whether due to lack of stimulation, chronic hypoxia, or actual cerebral damage from intraventricular hemorrhages with or without hydrocephalus are seen more frequently with BPD. Spastic diplegia is the most common neurologic diagnosis in the study by Vohr *et al*.<sup>5</sup> Poor neurodevelopmental outcome in some BPD infants has also been shown in other studies, though recent outlooks are more favorable.<sup>35</sup> Occupational and physical therapy specialists may establish programs, both in the hospital and at home, to enhance the developmental skills in areas where these patients are delayed. The family needs to become actively involved in their infant's care as early in the course as possible. A

consistent caretaker at home may have a beneficial effect on an infant's development.

It is important for these infants to be adequately immunized. Presently, the DPT is administered during hospitalization, but the oral polio vaccine should be postponed until after discharge due to the high likelihood of the infant excreting live virus.

If BPD infants have had problems with persistent apnea and bradycardia, they are discharged from the nursery with a home monitor. The family needs to be appropriately instructed on the use of the monitor and cardiopulmonary resuscitation. Infants with tracheostomies also are sent home on cardiorespiratory monitors. Primary care physicians should have an understanding of the alarm system used. Follow-up care for the home monitoring needs to be arranged by the pulmonologist/neonatologist.

Because of the complexity of problems encountered with BPD, a team approach to optimize care is almost mandatory. Family support and involvement are imperative. In this regard, stable infants often are sent home on oxygen per nasal cannula, which may be necessary for several weeks or months. The advantages of this arrangement may be great when compared to an extended hospitalization, which may result in lack of optimal parent-infant interaction and add to the enormous financial burden already incurred.<sup>36</sup> A follow-up care coordinator and/or social worker may be invaluable in providing continuity of care for the infant and family.

### Prognosis

Repeated hospitalizations during the first two years of life are normal occurrences for infants with BPD. What may be a simple viral illness in a normal child is often a life-threatening episode in the infant with BPD. Early readmission with appropriate therapy may be beneficial in interrupting severe bronchospastic episodes. Bronchodilators and beta adrenergic agents

are commonly used. Even ventilatory support may occasionally be necessary. Recovery following an acute respiratory illness is often prolonged.

Sudden Infant Death Syndrome (SIDS) is a cause of death in some very low birth weight infants. Several studies have indicated that the frequency of SIDS in premature infants with BPD may be substantially greater (two to sevenfold) than in control groups.<sup>37</sup> The higher risk of SIDS in infants with BPD has been postulated to result from intermittent hypoxemia associated with immature respiratory centers and/or a tendency for upper airway obstruction. Another proposed mechanism is that chronic hypoxemia results in dilatation of the pulmonary artery trunk which may cause entrapment of the recurrent laryngeal nerve, thereby precipitating obstructive apnea leading to SIDS.<sup>35</sup>

Mortality rates in infants with BPD were approximately 70% when described by Northway<sup>1</sup> in 1967; more recent studies show a marked improvement in survival statistics, varying between 61%<sup>10</sup> and 77%<sup>34</sup> survival, a total reversal in figures. In severe cases, hospital stay may exceed six months (depending, in a large part, upon oxygen and ventilator requirement). Home oxygen programs may shorten the hospitalization considerably.

With the recent development of methods to perform pulmonary function testing in infants, means of objectively following large groups of infants with BPD are now feasible. However, at present there are inadequate data to determine long-term sequelae of BPD as it affects future pulmonary function. Evaluation of pulmonary function in children surviving BPD at ages seven to nine years in a study by Smyth, *et al.*<sup>38</sup> demonstrated a high incidence of obstructive airway disease. However, these children were attending school and participating in activities, although with some exercise limitation. It is possible that infants with severe BPD may have permanent residual pulmonary damage.

## Conclusion

BPD is a form of chronic lung disease which appears to be increasing in frequency, in part a result of the improved survival of very premature infants with significant HMD. As more of these infants are discharged from newborn intensive care nurseries, it is imperative that a team of caretakers, including the primary care physician, be knowledgeable in the management of the problems which characterize BPD. This article has hopefully given some insight into the complexity of caring for infants with BPD and the necessity for a cooperative team effort in optimizing their growth potential.

## REFERENCES

1. Northway WH Jr, Rosan RC, Porter DY: Pulmonary disease following respirator therapy of hyaline membrane disease—bronchopulmonary dysplasia. *N Engl J Med*, 276:357-368, 1967.
2. Mayes L, Parkett E, Stahlman MT: Severe bronchopulmonary dysplasia: A retrospective review. *Acta Paediatr Scand*, 72:225-229, 1983.
3. Harrod JR, L'Heureux P, Wangenstein OD, Hunt CE: Long term follow up of severe respiratory distress syndrome treated with IPPB. *J Pediatr*, 84:277-286, 1974.
4. Fitzhardinge PM: Follow up studies in infants treated by mechanical ventilation. *Clin Perinatol*, 5:451-461, 1978.
5. Vohr BR, Bell EF, Oh W: Infants with bronchopulmonary dysplasia—growth pattern and neurologic and developmental outcome. *Am J Dis Child*, 136:443-447, 1982.
6. Wung J, Koons AH, Driscoll JM Jr, James LS: Changing incidence of bronchopulmonary dysplasia. *J Pediatr*, 95:845-847, 1979.
7. Hodgman JE: Chronic lung disorders. In Avery GB (ed), *Neonatology—Pathophysiology and Management of the Newborn*. Philadelphia, JB Lippincott Co, 1981.
8. Bancalari E: Bronchopulmonary dysplasia. *J Florida MA*, 70:802-807, 1983.
9. Banerjee CK, Girling DJ, Wigglesworth JS: Pulmonary fibroplasia in newborn babies treated with oxygen and artificial ventilation. *Arch Dis Childh*, 47:509-518, 1972.
10. Edwards DK, Dyer WM, Northway WH Jr: Twelve years' experience with

bronchopulmonary dysplasia. *Pediatrics*, 59:839-846, 1977.

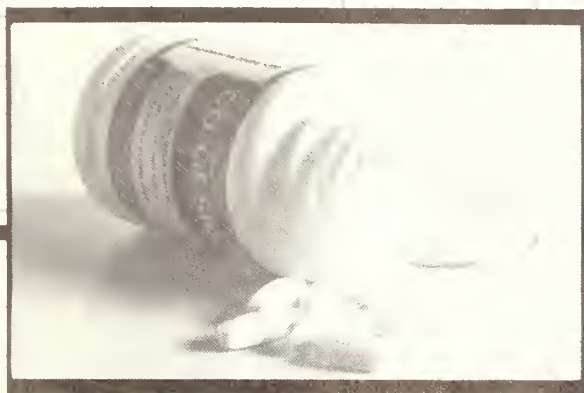
11. Milner AD: Bronchopulmonary dysplasia. *Arch Dis Childh*, 55:661-663, 1980.
12. Toghzadek A, Reynolds OR: Pathogenesis of bronchopulmonary dysplasia following hyaline membrane disease. *Am J Pathol*, 82:241-258, 1976.
13. Frank L, Massaro D: The lung and oxygen toxicity. *Arch Intern Med*, 139:347-350, 1979.
14. Opperman HC, Wille L, Bleyl U, Obladen M: Bronchopulmonary dysplasia in premature infants—a radiological and pathological correlation. *Pediatr Radiol*, 5:137-141, 1977.
15. Stern L, Ramos AD, Outerbridge EW, Beaudry PH: Negative pressure artificial respiration: use in treatment of respiratory failure of the newborn. *Can Med Assoc J*, 102:595-601, 1970.
16. Brown ER: Increased risk of bronchopulmonary dysplasia in infants with patent ductus arteriosus. *J Pediatr*, 95:865-866, 1979.
17. Brown ER, Stark A, Sosenko I, Lawson EE, Avery ME: Bronchopulmonary dysplasia: Possible relationship to pulmonary edema. *J Pediatr*, 92:982-984, 1978.
18. Watts JL, Arragno RL, Brady JP, Chir B: Chronic pulmonary disease in neonates after artificial ventilation: distribution of ventilation and pulmonary interstitial emphysema. *Pediatrics*, 60:273-280, 1977.
19. Northway WH Jr: Observations on bronchopulmonary dysplasia. *J Pediatr*, 95:815-818, 1979.
20. Ehrenkranz RA: Vitamin E and the neonate. *Am J Dis Child*, 134:1157-1166, 1980.
21. Nickerson BG, Taussig LM: Family history of asthma in infants with bronchopulmonary dysplasia. *Pediatrics*, 65:1140-1144, 1980.
22. Clark DA, Pincus LG, Oliphant M, Hubbell C, Oates RP, Davey FR: HLA A2 and chronic lung disease in neonates. *JAMA*, 248:1868-1869, 1982.
23. Moore KL: *The Developing Human—Clinically Oriented Embryology*. W.B. Saunders Co, Philadelphia, 1973.
24. Northway WH Jr, Rosan RC: Radiographic features of pulmonary oxygen toxicity in the newborn: Bronchopulmonary dysplasia. *Radiology*, 91:49-58, 1968.
25. Abman SH, Warady BA, Lum GM, Koops BL: Systemic hypertension in infants with bronchopulmonary dysplasia. *J Pediatr*, 104:928-931, 1984.
26. Kao LC, Warburton D, Sargent CW, Platzker ACG, Keens TG: Furosemide



- acutely decreases airway resistance in chronic bronchopulmonary dysplasia. *J Pediatr*, 103:624-629, 1983.
27. Bryan MH, Hardie MJ, Reilly BJ, Swyer PR: Pulmonary function studies during the first year of life in infants recovering from the respiratory distress syndrome. *Pediatrics*, 52:169-178, 1973.
  28. Sobonya RE, Logvinoff MM, Taussig LM, Theriault A: Morphometric analysis of the lung in prolonged bronchopulmonary dysplasia. *Pediatr Res*, 16:969-972, 1982.
  29. Stocks J, Godfrey S: The role of artificial ventilation, oxygen and CPAP in the pathogenesis of lung damage in neonates: Assessment of serial measurements of lung function. *Pediatrics*, 57:352-362, 1976.
  30. Fox WW, Morray JP, Martin RJ: The respiratory system, Part 5—Chronic pulmonary disease of the neonate. In Behrman's *Neonatal-Perinatal Medicine: Diseases of the Fetus and Infant*. Fanaroff AA and Martin RJ (eds) St. Louis, CV Mosby Co, 1983.
  31. Rooklin AR, Moomjian AS, Shutack JG, Schwartz JG, Fox WW: Theophylline therapy in bronchopulmonary dysplasia. *J Pediatr*, 95:882-885, 1979.
  32. Lee RMKW, Rossman CM, O'Brodovich H, Forrest JB, Newhouse MT: Ciliary defects associated with the development of bronchopulmonary dysplasia. *Am Rev Resp Dis*, 129:190-193, 1984.
  33. Weinstein MR, Oh W: Oxygen consumption in infants with bronchopulmonary dysplasia. *J Pediatr*, 99:958-961, 1981.
  34. Markesteed T, Fitzhardinge PM: Growth and development in children recovering from bronchopulmonary dysplasia. *J Pediatr*, 98:597-602, 1981.
  35. Yu VYH, Orgill AA, Lim SB, Bajuk B, Astbury J: Growth and development of very low birthweight infants recovering from bronchopulmonary dysplasia. *Arch Dis Childh*, 58:791-794, 1983.
  36. Pinney MA, Cotton EK: Home management of bronchopulmonary dysplasia. *Pediatrics*, 58:856-859, 1976.
  37. Werthammer J, Brown ER, Neff RK, Taeusch HW Jr: Sudden infant death syndrome in infants with bronchopulmonary dysplasia. *Pediatrics*, 69:301-304, 1982.
  38. Smyth JA, Tabachnik E, Duncan WJ, Reilly BL, Levison H: Pulmonary function and bronchial hyperreactivity in long-term survivors of bronchopulmonary dysplasia. *Pediatrics*, 68:336-340, 1981.

# Co-Gesic<sup>®</sup>

(500 mg. Acetaminophen - 5 mg. Hydrocodone Bitartrate)



Proven  
Dependability

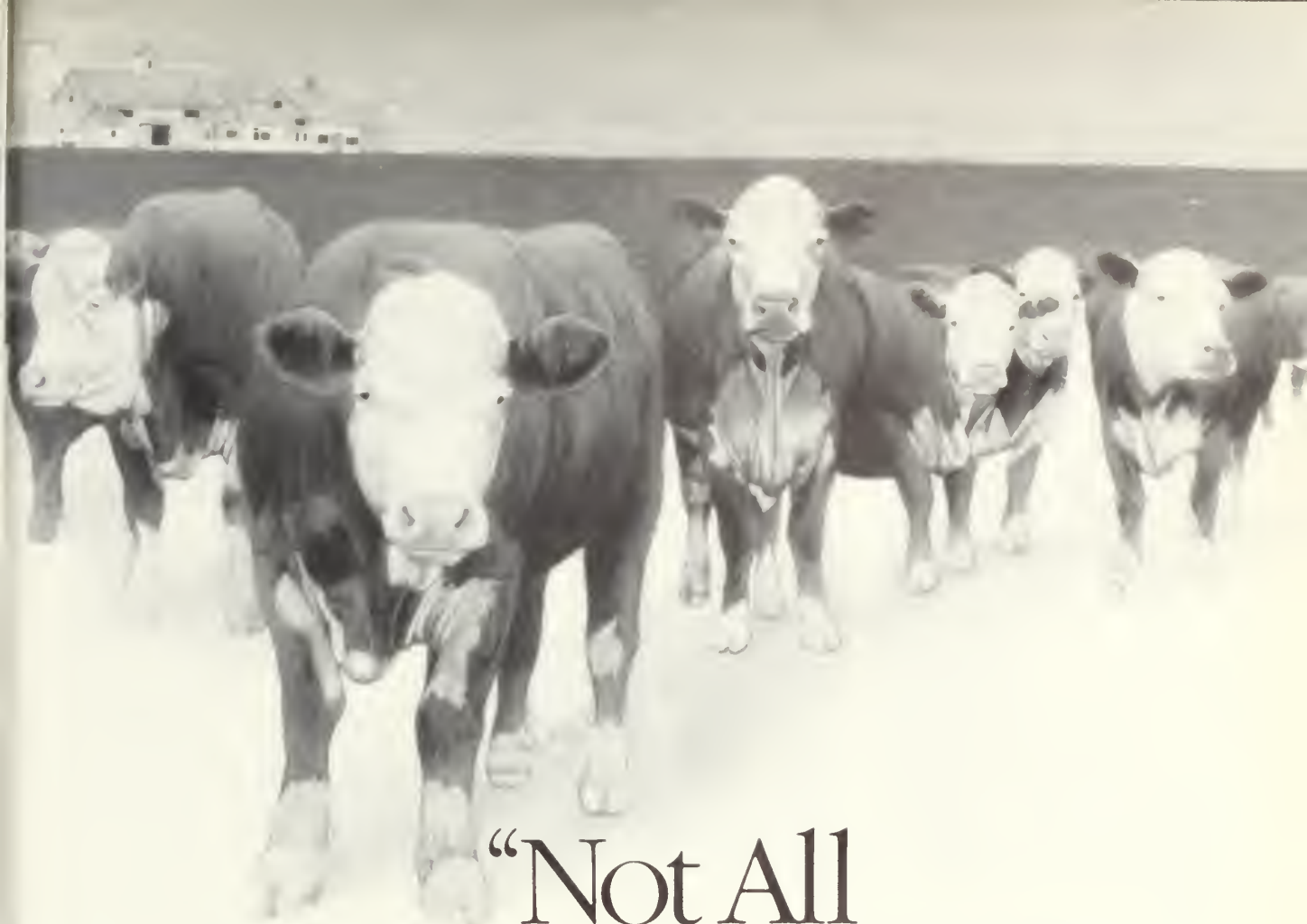


**CENTRAL PHARMACEUTICALS, INC.**

SEYMOUR, INDIANA 47274 USA

*Quality Pharmaceuticals Since 1904*





# “Not All Stock Investments Are Made On Wall Street”



*Robert R. Halderman*

Midwestern earth. In fact, last year, over 50% of our farm sales were made to investors.

Historically an excellent investment, American farmland is now at its lowest price in years. Interest rates are down and the selection of available properties is outstanding.

But realizing the maximum return on a farm investment means staying on top of the latest

“Today, more and more investors are beginning to see that America’s farmland has investment potential as rich as a fistful of

developments in agriculture, finance and real estate. That’s where we come in. For three generations and thousands of clients, Halderman Farm Management has been dedicated to efficient, profitable farm investments. We can aid you in the selection and acquisition of farm real estate, and offer a full range of management services—from an occasional consultation, to complete management of a farm operation. Currently we manage over 700 farms.

Now is the time to invest in American farmland. Halderman Farm Management can help make it profitable. That’s been our business for over 50 years.”

**HALDERMAN  
FARM  
MANAGEMENT**

For further information call or write:  
Robert R. Halderman  
Halderman Farm Management Service Inc.  
P.O. Box 297 Wabash, Indiana 46992  
(219) 563-8888

# Chronic Discoid Lupus Erythematosus with Widespread Skin Involvement

C. SINGH THETHI, M.D.  
Marion

A 55-YEAR-OLD WHITE man developed an erythematous patch over the right side of his nose about 30 years ago. The lesion gradually increased in size. It was raised with irregular nodular border, and the center developed scarring, depigmentation and atrophy. Gradually, in spite of treatment, more lesions developed, and started spreading over the face and the scalp with production of whitish scales causing alopecia (*Figure 1*).

During a 30-year period, there were many remissions and exacerbations. When seen at our hospital, most of his body was covered with lesions. Both shoulders and back were covered with extensive, irregular whitish patches (*Figure 2*); both upper extremities and upper part of chest were also riddled with lesions of varying sizes (*Figure 3*). Many of the lesions in the upper extremity were nodular in nature. Both thighs showed a telangiectatic pattern. Additional physical and laboratory findings included blood pressures of

## Abstract

Chronic Discoid Lupus Erythematosus (CDLE) is a skin disorder characterized by well defined, raised erythematous lesions which spread slowly with irregular outline. The center of the lesions heal with scaling, atrophy and scarring. They are most often located on the face, ears, and scalp. This is a case report of extensive involvement of the whole body in a 55-year-old white man.

130/80mm/Hg., normal ESR, normal CBC without leukopenia, BUN 10 mg.%, S. creatinine 1.5 mg.%, LE cells - negative, and antibody for native DNA - negative. The patient had been on treatment with topical Betamethasone 0.1% Cream.

Pertinent findings in the history included the development of joint pains over the past two years in the small joints of hands, wrists and elbows, but there was no history of fever.

## Discussion

Chronic Discoid Lupus Erythematosus (CDLE) is divided into localized and widespread forms depending upon the extent of involvement. In the localized form, skin lesions are confined to the neck and above; in the widespread form, lesions extend below the neck to involve extensive regions of the body. This form is more severe, and there is a greater likelihood of progression to Systemic Lupus Erythematosus (SLE). The most common age group for this disorder is 25-45 years, with a higher incidence in women.

## Histopathology

Characteristic changes involve damage to the basal cell layer of the skin with irregularity in size, poor cohesion, and disorganization with liquification and vacuolization of cytoplasm. The cell margins are usually preserved. There is accumulation of inflammatory cells around hair follicles, sebaceous glands, and blood vessels, eventually causing atrophy of appendages.

## Etiology

The exact etiology of CDLE is uncertain. Some of the following observations have been made: CDLE may be the only manifestation of a congenital deficiency of C2. In CDLE, IgG and complement are deposited in a granular fashion in the dermoepidermal layer of skin, similar to SLE, but the serum complement level is normal and negative for native DNA. In CDLE, normal skin is not involved in the process, whereas, in SLE, normal-appearing skin is also involved microscopically.<sup>1</sup>

Gilliam and Hurd think persistent, mononuclear infiltrate is secondary to autoantigen response associated with activation of B-cells.<sup>2</sup> Szegedi states this is mainly due to increase in null cells.<sup>3</sup> Viral-like particles similar to SLE are also seen in CDLE.<sup>4</sup> The evolution of CDLE into SLE is accompanied by the appearance of LE cells, very high level of Ig and anti T-cell antibodies, and most importantly, a significant reduction or loss of suppressor activity in peripheral blood mononuclear cells.<sup>1</sup> Dermal mucinosis in CDLE is also reported.<sup>5</sup> Brandrup, *et al.*,<sup>6</sup> report CDLE-like lesions and stomatitis in female carriers of X-linked chronic granulomatous disease.

From the Veterans Administration Medical Center, Marion, Ind. 46952.

Acknowledgment: Mr. Dick Jones, staff photographer, for the photographs accompanying this case report.



FIGURE 1



FIGURE 2



FIGURE 3

The membrane attack complex which comprises C5b through C9, as well as immune complexes, are seen in CDLE, but in SLE, only immune complexes without membrane attack complexes are seen at the dermoepidermal junction.<sup>7</sup> CDLE may be exacerbated by sunlight, cold, and the occurrence of menses.

Kaposi has divided CDLE into three types:<sup>8</sup>

1. *Erythema persistans faciei* is characterized by erythematous patches without scaling or edema, confined predominantly to the face.

2. *Hypertrophic form* shows raised indurated hyperkeratotic lesions (mainly on the face, neck and extensor surfaces of the upper extremity).

3. *Profundus form* produces deep cutaneous nodules due to panniculitis.

#### Treatment

Patients with a history of aggravation of the disease by sunlight should use protective sunscreens with wide-brimmed hats, long sleeves, and high neck garments when there is potential exposure.<sup>1</sup> Avoidance of emotional

stress and physical trauma, where possible, should be encouraged. The skin should be protected with multi-layered garments and avoidance of prolonged outside activity during cold weather.

Isolated skin lesions are treated best by intralesional infiltration with a suspension of triamcinolone acetate 5 mg./ml. not to exceed 10 mg./in. sq.<sup>2</sup> Excessive dosage may cause atrophy of the skin. With widespread lesions, topical therapy is instituted with fluorinated steroids with occlusive dressings. Systemic therapy with the four aminoquinoline group is also effective in controlling the lesions, but due to their toxicity (i.e., retinal damage, etc.), are not frequently used. With chloroquine, the usual dose is one tablet (500 mg.) b.i.d. for one week followed by one tablet q.d. until the lesions subside. Systemic steroids at low dosages are only used when CDLE has overlapping features of SLE; otherwise, response to steroids is poor and not advised due to complications from long-term use. CDLE is a disfiguring skin disease but usually with a benign course.

#### REFERENCES

1. Fitzpatrick TB, et al: *Dermatology in General Medicine* (Ed 2), McGraw Hill Book Co, p 1276, 1979.
2. Gillium JH, Hurd ER: Comparison of circulating T and B-cell lymphocytes in discoid systemic lupus erythematosus. *Clin Immunopathol*, 6:149-155, 1976.
3. Szegedi GY, et al: Studies on T- and B-lymphocytes in the peripheral blood of discoid lupus erythematosus patients with and without chloroquine treatment. *Acta Derm Venereol (Stockh)*, 56:47, 1976.
4. Hashimoto K, Thompson DF: Discoid lupus erythematosus: Electron microscopic studies of paramyxovirus-like structure. *Arch Dermatol*, 109:364, 1974.
5. Weigand DA, et al: Dermal mucinosis in discoid lupus erythematosus. *Arch Dermatol*, 117:735, 1981.
6. Brandrup F, et al: Discoid lupus erythematosus-like lesions and stomatitis in female carriers of X-linked Ch. granulomatous disease. *Br J Dermatol*, 5:104, 1981.
7. Biesecker G, et al: Cutaneous localization of the membrane attack complex in discoid lupus erythematosus. *N Engl J Med*, 306:265, 1982.
8. Rothfield NF, et al: Chronic discoid lupus erythematosus: Study of 65 patients and 65 controls. *N Engl J Med*, 269:1795, 1963.



# Upper GI Hemorrhage: New Therapies

## Critical Care Medicine

JOHN C. KOHNE, M.D.  
Indianapolis

**D**ESPITE THE MARKED advances in critical care medicine, upper gastro-intestinal hemorrhage (UGIH) remains a problem for which there has been no improvement in therapy or outcome in the past several decades. Newer endoscopic therapeutic modalities hold promise in changing this unfortunate dilemma.

### The Problem

Although estimates vary, the incidence of hospitalization for acute UGIH may be as high as 100 for each 100,000 population base per year.<sup>1</sup> If this were true, one thousand admissions for this problem would occur in the Indianapolis metropolitan area this year. Of these 1,000, it would be predicted that up to 100 would die. Unfortunately, this 10% mortality figure has not changed significantly in the past few decades. Although it can be argued that there has been a shift to an older higher risk population of bleeding patients because people are living longer, many would say that the statistics do not suggest a dramatic improvement in outcome.

The author is a gastroenterologist associated with the Meridian Medical Group, 1801 N. Senate Blvd., Indianapolis, Ind. 46202.

### Natural History

Diagnostic endoscopy has added much to our understanding of the etiology and natural history of UGIH, but disappointingly has not been shown to reduce mortality.<sup>2</sup> Large series of patients with UGIH have been evaluated and the frequency of various etiologies has been established (*Table 1*).<sup>3</sup> Peptic disease of the stomach and duodenum is the source of most hemorrhage, with varices and a Mallory-Weiss tear comprising the bulk of the rest. The behavior of these individual lesions in the traditional treatment setting has been learned from observations made in these endoscopic series. Brisk bleeding may be seen in 15% of the cases at the time of endoscopy. Eighty-five percent of UGIH stops without specific therapy. Fifteen to 30% of cases will have in-hospital rebleeding. Rebleeding rates are highest for varices at about 40%. Gastric ulcer has the next highest rebleeding rate at about 25%, and rates for other lesions are usually less than 10%.<sup>4</sup> Overall, about 15% of acute UGIH are operated. The mortality may be as high as 50% for esophageal varices but only 1-2% in peptic ulcer patients with no associated comorbid disease.

It is often difficult to determine the exact cause of death when looking at data from large series of patients with UGIH. The rebleeding rate, however, seems to be the most predictive for adverse mortality. Despite this fact, few exsanguinate and mortality is determined more by the presence of comorbid disease. Some of the associated problems include stroke, myocardial infarction, respiratory failure, cancer, sepsis and hepatic

TABLE 1  
Causes of Upper GI Hemorrhage<sup>2</sup>

Diagnosis	
Duodenal Ulcer	24.3%
Gastric Erosions	23.4%
Gastric Ulcer	21.3%
Varices	10.3%
Mallory-Weiss Tear	7.2%
Esophagitis	6.3%
Erosive Duodenitis	5.8%
Neoplasm	2.9%
Other	10.3%

failure. It is hoped that the prompt interruption of hemorrhage may prevent an adverse effect on these concurrent illnesses and thus improve mortality.

### Stigmata

Another benefit of the endoscopic era has been the characterization of various features of bleeding lesions in particular bleeding ulcers. The initial finding that a "visible vessel" in the base of an ulcer crater predicted higher rebleeding rate and need for surgery sparked the hope that features of a bleeding lesion would predict the natural course of the bleeding episode.<sup>5</sup> If this could be established, then perhaps the 15% of ulcer patients who rebleed or go on to surgery could be determined prospectively. Therapy could then be directed to those ulcers.

Various terms and descriptions of ulcer stigmata have been used. *Table 2* illustrates a recent scheme. Not all studies have used similar terms or classifications of these findings. *Table 3* illustrates the results of recent controlled trials in regard to the natural

TABLE 2

**Active Bleeding**

Arterial Jet

Oozing Hemorrhage

Oozing Under Overlying Clot

**Recent Hemorrhage**

Adherent Clot Without Oozing

Black or Red Spot

Bare Visible Vessel

history of peptic ulcers referable to their stigmata. Although these studies are new, two important points can be made. The presence of spurting hemorrhage or a visible vessel predicts poor outcome. In the absence of any stigmata, rebleeding would not be expected. If the predicting value of these stigmata can be substantiated, they could significantly affect clinical management. They could influence how long a particular bleeding patient is observed in intensive care or in the hospital. One also may be able to determine which ulcers we treat prophylactically, either surgically or endoscopically.

Stigmata for predicting rebleeding from varices is also under active investigation.

**Medical Therapy**

There is no evidence to support the effectiveness of medical therapy in the control of active UGIH from peptic

ulcer disease. This would include cimetidine, ranitidine, antacids, gastric pH control, norepinephrine instillation, gastric lavage, Sucralfate and tissue glues. Vasopressin and Sengstaken Blakemore tubes have been of limited value in acute variceal hemorrhage, but both have a high rebleeding rate.

**Surgical Therapy**

The only truly effective means of stopping hemorrhage from peptic lesions has been the operative application of ligature or electrocautery. In the emergent situation the mortality may be as high as 30%. This may be three times as high as that of elective surgery for recent hemorrhage. The mortality for emergent porta caval shunt procedures has been about 50%, with the mortality varying depending on the severity of liver disease.

**Newer Endoscopic Techniques**

To date, the diagnostic information obtained from endoscopy has had no marked effect on the outcome of UGIH. This may relate to the fact that the only effective therapy for the lesions identified has been surgical. This may adversely affect concurrent illnesses and result in mortality. Several new endoscopic techniques have been developed that can stop hemorrhage. The techniques vary depending on the type of lesion causing the bleeding. It is useful to divide them into those used for arterial lesions from peptic ulcera-

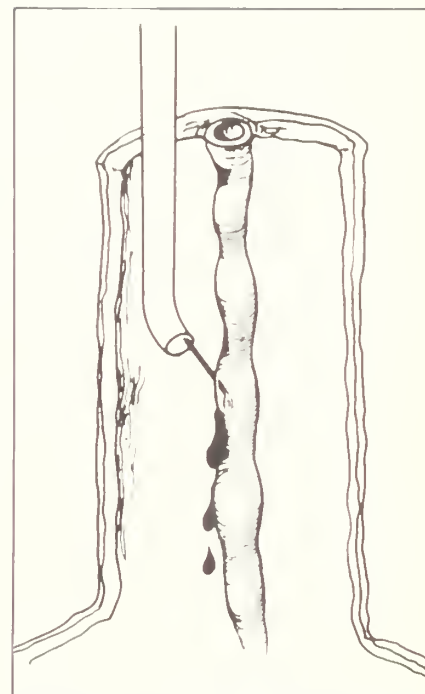


FIGURE 1: Schematic representation of sclerotherapy of dilated varix.

tion and those used for variceal hemorrhage.

**Variceal Hemorrhage**

Injection sclerosis of esophageal varices has been shown to be an effective means of stopping acute variceal hemorrhage. This technique (*Figure 1*) involves the use of sclerosing agents such as morrhuate, Sotradecol and alcohol in various media. This solution is injected into or beside the varix using an injection needle passed through the endoscope suction channel. The agent causes a reaction in the vessel wall as well as thrombosis, resulting in obliteration of the vessel lumen and cessation of hemorrhage.

The overall effectiveness of injection sclerotherapy has been estimated at 75%. The determination of whether this technique truly will improve survival is still under investigation despite encouraging preliminary results.<sup>8</sup> Its usefulness seems to be more clearly established in Class B and C cirrhotic patients where the risk of shunting

TABLE 3  
Stigmata of Recent Hemorrhage (SRH)  
Risk of Rebleeding

Stigmata	Number of Ulcers	Rebleeding
Arterial Jet	30 ( 8%)	85%
Visible Vessel (Not Bleeding)	95 (26%)	51%
Crater Not Adequately Seen (i.e. Clot)	68 (18%)	41%
Other SRH	45 (12%)	5%
No SRH	132 (36%)	Nil

procedures is high. Complication rates for sclerosing vary between 2 and 15% per patient. This is certainly reasonable in face of the complication rates associated with traditional therapy for variceal hemorrhage. This technique is being actively used in private practice settings in most large hospitals in the United States.

### Arterial Hemorrhage

Life-threatening bleeding from peptic lesions usually involves erosions into arteries. The ulcer penetrates the artery in the submucosa where the vessel has surfaced from larger serosal arteries. As mentioned, the area where the vessel is penetrated may be identified endoscopically. The newly available procedures to stop hemorrhage involve obliterating this vessel's lumen. This appears to be possible if the artery is less than 1.5mm in diameter, which does include most ulcerated peptic lesion vessels. Thermal cautery (heater probe), bipolar electrocautery and laser therapy have been the most extensively used and evaluated in the U.S. All three of these techniques can be applied endoscopically with the former two methods involving placing direct pressure on the lesion.

To effectively evaluate the true usefulness of these techniques would require prospective controlled trials. This is difficult because of difficulty defining those 15% of patients who will not stop bleeding spontaneously, and because of the need for obtaining a large enough series of patients to demonstrate statistically significant

differences in control and treated groups. In comparison studies where the techniques are utilized against each other, it would appear that the direct contact heater probe and bipolar electrocautery devices have advantages over laser.<sup>9</sup> There are probably several reasons for this. All the techniques use heat as a hemostatic agent. The heat causes thrombosis of vessels as well as vessel wall shrinkage. This is the only component of hemostasis available to laser. The direct pressure devices are applied *next to* a visible vessel or spurting vessel. When there is active bleeding, one can actually locate the hidden afferent blood vessel by seeing the bleeding stop when the vessel is tamponaded. This tamponade effect also prevents the blood flow from carrying away part of the heat and thereby reducing treatment effectiveness. Lastly, the direct pressure causes the vessel walls to be apposed and thus as heat is applied the endothelial surfaces are "welded" together. Although the studies may be preliminary, the apparent effectiveness and relative low complication risk of these instruments will probably result in their imminent use in clinical settings.

### Future Prospects

The application of these devices at the time of diagnosis holds the promise of altering the natural history of acute UGIH. With early interruptions of hemorrhage, especially in the patient with other complicating medical problems, it is hoped that the impact of the bleeding on the comorbid illnesses will

be averted. Since it is the status of these conditions which determines ultimate mortality from UGIH, perhaps these techniques will finally allow us to reduce its mortality.

### REFERENCES

1. Petrini JL: Fifth International Endoscopy Symposium. Cleveland Clinic Foundation. Endoscopy in gastrointestinal bleeding: Fact or fantasy. Pg. 1-8, 1985.
2. Schrock TR: Does endoscopy affect the surgical approach to the patient with upper gastrointestinal bleeding? *Dig Dis Sci*, 26:27-30 (supplement), 1981.
3. Silverstein FE, Gilbert DA, Tedesco FJ, *et al*: The national ASGE survey on upper gastrointestinal hemorrhage. *Gastrointestinal Endoscopy*, 27:73-79, 1981.
4. Graham DY: Fifth International Endoscopy Symposium. Cleveland Clinic Foundation. Endoscopy in gastrointestinal bleeding: Fact or fantasy. Pg. 22-26, 1985.
5. Griffiths WJ, *et al*: The visible vessel as an indicator of uncontrolled or recurrent hemorrhage. *NEJM*, 300:1411-13, 1979.
6. Swain CP, Bown SG, Storey DW, *et al*: Endoscopic prediction of recurrent bleeding in peptic ulcers. *Lancet* (II), 1313-16, 1981.
7. Swain CP, Bown SG, Salmon PR, *et al*: Controlled trial of Nd YAG laser photocoagulation in bleeding peptic ulcers. *Gastrointestinal Endoscopy*, 30(2):137, 1984.
8. MacDougall BRD, Westaby D, Theodoss A, *et al*: Increased long-term survival in variceal hemorrhage using injection sclerotherapy. Results of a controlled trial. *Lancet* I, 124-27, 1982.
9. Johnson JH, Sones J, Long B: Heater probe is superior to YAG laser in clinical endoscopic treatment of major bleeding from peptic ulcers. *Gastrointestinal Endoscopy*, 30:154, 1984.



**BROWN** THE BROWN PHARMACEUTICAL CO., INC.

2500 West Sixth Street, Los Angeles, CA 90057

For Full Prescribing Information, Please See PDR.



# **Android**<sup>®</sup> / <sup>Buccal</sup>5<sub>mg</sub> / <sup>Oral</sup>10<sub>mg</sub> / <sup>Oral</sup>25<sub>mg</sub>

Methyltestosterone U.S.P. Tablets

# **ANDROID**<sup>®</sup> / **F**

Fluoxymesterone U.S.P. Tablets, 10<sub>mg</sub>



## **FOR MEDICAL PROFESSIONAL LIABILITY COVERAGE, THE ISMA STRONGLY RECOMMENDS PHYSICIANS INSURANCE COMPANY OF INDIANA.**

Several companies are anxious to provide most Indiana physicians with medical professional liability insurance coverage. *Only one* has received the formal endorsement, support, and sponsorship of the Indiana State Medical Association. That company is PICI, Physicians Insurance Company of Indiana.

### **Why PICI?**

Because PICI is committed to providing Indiana physicians with the best possible coverage at the lowest possible rates throughout their medical careers. Indiana physicians dominate the company's board of directors and serve on budget, claims and underwriting committees. PICI is a publicly held stock company, and provides annual as well as periodic interim financial reports.

With PICI, you know what's happening to your premium dollars. You will receive information about claims experience and trends. You are guaranteed input on company activities, through your physician members of the company's board and its committees. You are part of the company.

Through PICI, you also receive competitively priced auto, homeowners, office protection and personal umbrella coverages, designed and offered with the same long term commitment.

Compare all that PICI offers with what you will obtain from other sources of medical professional liability and other essential insurance coverages. We think you'll agree that the ISMA has endorsed the best.

**The Accountable Company . . .**



**PHYSICIANS INSURANCE  
COMPANY OF INDIANA**

3901 West 86th Street  
Suite 350  
P.O. Box 689059  
Indianapolis, Indiana 46268  
(317) 872-3046 or toll free  
in Indiana (800) 732-1313



# BALANCED CALCIUM CHANNEL BLOCKADE!



**CARDIZEM**  
(diltiazem HCl)

balances  
potent  
coronary  
vasodilation  
with a low  
incidence of  
side effects

**Low incidence of side effects**  
CARDIZEM® (diltiazem HCl) produces an incidence of adverse reactions not greater than that reported with placebo therapy, thus contributing to the patient's sense of well-being.

\*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

References:

1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. *Am J Cardiol* 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. *Chest* 78 (July suppl):234-238, 1980.

**Reduces angina attack frequency\***  
42% to 46% decrease reported in multicenter study.<sup>1</sup>

**Increases exercise tolerance\***  
In Bruce exercise test,<sup>2</sup> control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ( $P < .005$ ).

**CARDIZEM**  
(diltiazem HCl)

**THE BALANCED  
CALCIUM CHANNEL BLOCKER**

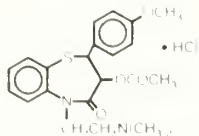


## PROFESSIONAL USE INFORMATION



### DESCRIPTION

**CARDIZEM** (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically diltiazem hydrochloride is 1,5-Benzothiazepine 4(5H)-one, 3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(1,4-methoxyphenyl)-monohydrochloride (+/-)-cis-. The chemical structure is



Diltiazem hydrochloride is a white to off white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

### CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

**Mechanisms of Action.** Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm. CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.

2. Exertional Angina. CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

**Hemodynamic and Electrophysiologic Effects.** Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect, cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length up to 50% in some cases.

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

**Pharmacokinetics and Metabolism.** Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120 mg dose gave blood levels three times that of the 60 mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

### INDICATIONS AND USAGE

1. Angina Pectoris Due to Coronary Artery Spasm. CARDIZEM

is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).

2. Chronic Stable Angina (Classic Effort-Associated Angina). CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

### CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

### WARNINGS

1. Cardiac Conduction. CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.

2. Congestive Heart Failure. Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.

3. Hypotension. Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.

4. Acute Hepatic Injury. In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes (See PRECAUTIONS AND ADVERSE REACTIONS).

### PRECAUTIONS

**General.** CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

**Drug Interaction.** Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

**Carcinogenesis, Mutagenesis, Impairment of Fertility.** A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in *in vitro* bacterial tests. No intrinsic effect on fertility was observed in rats.

**Pregnancy.** Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

**Nursing Mothers.** It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

**Pediatric Use.** Safety and effectiveness in children have not been established.

### ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%),

headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LOH.
Dermatologic/Other:	Pruritus, petechiae, urticaria, photosensitivity. Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme, leukopenia, and extreme elevations of alkaline phosphatase, SGOT, SGPT, LOH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

### OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral  $LD_{50}$ 's in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous  $LD_{50}$ 's in these species were 60 and 38 mg/kg, respectively. The oral  $LD_{50}$  in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

### DOSEAGE AND ADMINISTRATION

**Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm.** Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

#### Concomitant Use With Other Antianginal Agents:

1. Sublingual NTG may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. Prophylactic Nitrate Therapy - CARDIZEM may be safely administered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. Beta-blockers. (See WARNINGS and PRECAUTIONS.)

### HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NOC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NOC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NOC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NOC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

Issued 4/1/84

Another patient benefit product from



# Juvenile-onset Diabetes Mellitus

## Glucose Control and Microvascular Changes

SHIRLEY M. MUELLER, M.D.  
DEBORAH M. LATIMER, B.S.  
MATTHEW J. MICK, M.D.  
Indianapolis

**M**ICROVASCULAR DISEASE is one of the most severe complications of diabetes mellitus. The clinical manifestations are limb ulcers, retinopathy and renal disease.<sup>1</sup> Although recent evidence<sup>2,3,5</sup> suggests that normalization of blood glucose may prevent or reverse some microvascular complications, this important issue is hardly settled.<sup>6</sup>

The human forearm is representative of a limb vascular bed with the potential for the development of microvascular disease. In addition, the forearm can be studied non-invasively using plethysmography. The purpose of this study was to physiologically measure resistance in forearm vessels during maximal dilation. This determination is called minimal vascular resistance and can be utilized to assess structural changes in resistance vessels.<sup>7</sup> Our hypothesis was that

### Abstract

Vascular alterations are present during established diabetes mellitus and contribute to clinical complications. To determine how early these alterations occur, and any association they have with diabetic control, we examined the maximal vasodilator capacity of forearm vessels using plethysmography. Nineteen white male, juvenile-onset diabetics ( $24 \pm 2$  years; mean  $\pm$  SE) were compared to 34 white male controls ( $23.5 \pm 0.5$  years). The average duration of diabetes was  $12 \pm 1$  year. Resting forearm vascular resistance was first determined. Then, the maximal vasodilator capacity or minimal vascular resistance (MVR) was measured. We found no difference in baseline resistance between the diabetic ( $22.7 \pm 2.3$  units) and control ( $24.9 \pm 1.8$  units) groups. However, MVR in the forearm of diabetics was significantly elevated compared to the

controls (diabetics  $1.68 \pm 0.07^*$  units, controls  $1.48 \pm 0.04$ ,  $*p < 0.01$ ). Using a subset of subjects, prostacyclin, thromboxane, platelet aggregation and circulating immune complex levels were measured under the same conditions. No differences were found between the resting and ischemic values of the diabetic and control subjects. Therefore, humoral substances did not influence the MVR values. To determine the effect of diabetic control on vascular alterations, we examined the correlation of acute (day of test) and chronic (one year average) HbA<sub>1c</sub> values to MVR. A positive correlation was found only between chronic HbA<sub>1c</sub> values and MVR ( $r = 0.59$ ,  $p < 0.02$ ). These results indicate that: 1. vascular alterations occur early in juvenile-onset diabetes (within 12 years); 2. there is a positive correlation between long-term diabetic control and vascular alterations.

diabetic control, as indicated by HbA<sub>1c</sub>, would correlate with minimal vascular resistance in our diabetic population. The diabetic subjects were compared to non-diabetic controls that were age, sex and race matched.

### Methods

**Subjects:** The study protocol was approved by the Human Use Committee of Indiana University School of Medicine. An informed consent was signed by each participating subject. A total of 19 white males with Type I diabetes mellitus (age  $24 \pm 2$  years; mean  $\pm$  SE), and 34 age, sex and race matched healthy controls ( $23.5 \pm 0.5$

years) participated in this study.

The subjects' medical histories were non-contributory except for diabetes mellitus. None of the participants had a family history of hypertension. No subjects were on medications other than insulin. Baseline blood pressures on the day of the test did not differ between diabetes ( $128 \pm 2/64 \pm 4$  mm Hg) and controls ( $128 \pm 1/66 \pm 1$  mm Hg, NS).

The average duration of diabetes mellitus was  $12 \pm 1$  years, and the mean age at the time of diagnosis was  $12 \pm 2$  years. All diabetics received daily insulin injections except for two who were treated with Betatron II in-

From the Depts. of Neurology and Physiology, Indiana University School of Medicine, Indianapolis.

Supported by National Institutes of Health PHS R01 HL 31418-01, "Peripheral Vascular Assessment of Diabetes Mellitus."

Correspondence: Shirley M. Mueller, M.D., 8402 Harcourt Road, Suite 726, Indianapolis, Ind. 46260.

Acknowledgments: Kathleen Bell and Sandy Siggelko for typing the manuscript, and Mark S. Slaughter for participating in preliminary studies.



sulin pumps (Cardiac Pacemakers, Inc., St. Paul, Minn.)

On the day of the experiment, glycosylated hemoglobin (HbA<sub>1</sub>) values were determined for all diabetic participants (acute HbA<sub>1</sub>). Average HbA<sub>1</sub> values for one year (chronic HbA<sub>1</sub> level) were also obtained from 17 of the 19 diabetic subjects (an average of  $5.3 \pm 0.5$  determinations/yr). These HbA<sub>1</sub> values were then used to divide the diabetics into two groups: 1. Those defined as having good diabetic control had an HbA<sub>1</sub>  $\leq 9.0$ ; 2. those defined as having poor diabetic control had an HbA<sub>1</sub>  $> 9.0$ .

**Bloodflow Determination:** The subject reclined on a bed located in a quiet, temperature controlled (23-25°C) room. An Ohio Automated Blood Pressure Monitor (Model 2100) was placed around the subject's right arm. While blood pressure was monitored in the right arm, blood flow was measured in the left arm using mercury-in-silastic strain gauge plethysmography as previously described.<sup>8</sup>

The left arm was positioned approximately 60° from the body at the level of the anterior chest. The left forearm was supported at the wrist by a sling to permit a 45° flexion of the elbow. Two blood pressure cuffs were placed around the left arm. One was positioned around the wrist and was inflated to 200 mm mercury pressure to arrest blood flow to the left hand. The other was positioned around the upper arm to occlude venous flow when inflated to a pressure of 40 mmHg. The strain gauge was placed approximately 5 cm distal to the antecubital crease.

At least 15 minutes of rest followed cuff and strain gauge placement before baseline blood flow curves were recorded. The blood flow was calculated from these curves by determining the slopes of the initial linear increases (Fig. 1, left). These linear increases were proportional to the increase in forearm circumference produced by intermittent venous occlusion. Forearm vascular resistance was calculated by dividing the mean arterial pressure (diastolic

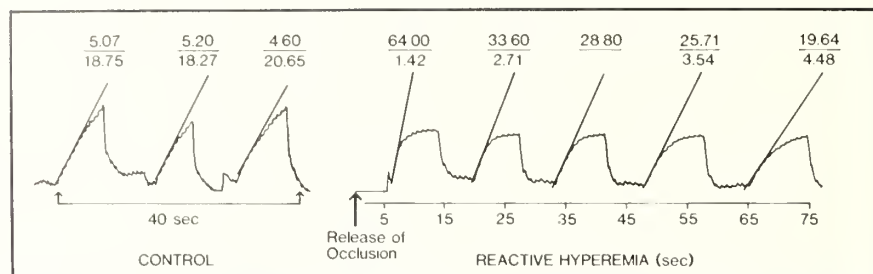


FIGURE 1: Recordings of forearm blood flow during control conditions (left) and after 10 minutes of arterial occlusion resulting in hyperemia (right). Blood flow was calculated from these curves by determining the slopes of the initial linear increases. These linear increases were proportional to the increase in forearm circumference produced by intermittent venous occlusion.

plus 1/3 pulse pressure in mm Hg) by the recorded blood flow (ml/min/100 ml forearm tissue) and is expressed as "units" in this paper. Baseline vascular resistance was determined from the average of four to six pre-test blood flows.

**Reactive Hyperemia:** Reactive hyperemia was induced in the left forearm by inflating the upper arm cuff to suprasystolic pressure (200 mm Hg) for either 6 or 10 minutes. The vascular resistance recorded after 10 minutes of arterial occlusion is referred to as minimal vascular resistance (MVR). To ensure that maximum vasodilation had occurred, a subgroup of our population (7 controls and 10 diabetics) participated in an additional test that combined 10 minutes of arterial occlusion with hand exercise (60 squeezes of a rubber hand grip) during the final minute of cuff inflation. The rationale for hand exercise was to increase vasoactive metabolites in the forearm vasculature. These substances would cause further dilation if maximal dilation had not been achieved with 10 minutes of arterial occlusion alone.

The first blood flow curve was recorded about six seconds after the release of the suprasystolic pressure in the upper arm cuff. Subsequent blood flows were recorded approximately every 10 seconds for the next 150 seconds (Fig. 1, right). The peak blood flow and blood pressure after arterial occlusion were used to determine minimal vascular resistance.

**Reproducibility of Results:** Reproducibility of minimal vascular resistance was verified in two ways. First, variability within the same day was examined by repeating the test within a four-hour period. Each of the reactive hyperemia blood flow tests was separated by at least 30 minutes. Secondly, day-to-day variability was examined by repeating the test on separate days.

**Hematologic Studies:** Hematologic studies were performed on a subset of five diabetics and five controls to determine whether 10 minutes of arterial occlusion caused changes in prostacyclin, thromboxane, platelet aggregation, and circulating immune complex levels. Prostacyclin levels were analyzed by the New England Nuclear 6-Keto-Prostaglandin F<sub>1d</sub> [<sup>3</sup>H]-RIA Kit manufactured by New England Nuclear, Nuclear Corporation, Boston, Mass. Thromboxane levels were determined using the New England Nuclear Thromboxane B<sub>2</sub> [<sup>3</sup>H]-RIA Kit also produced by New England Nuclear Corporation, Boston, Mass. Spontaneous platelet aggregation was measured using a previously described technique,<sup>9</sup> and circulating immune complexes were analyzed using the nephelometric method.<sup>10</sup> These tests were not performed on the same day as the plethysmography tests.

The hematologic tests were performed on venous blood before and after 10 minutes of forearm ischemia. First, a 30 ml venous blood sample was



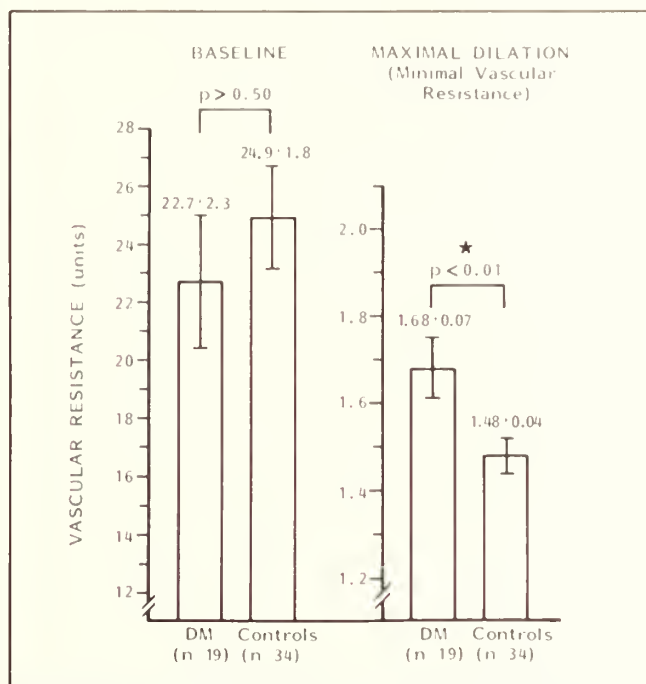


FIGURE 2: Vascular resistance during baseline (left) and maximal dilation (right). DM = diabetic subjects. No significant difference in the baseline vascular resistance was found between the diabetic and control subjects (left). A significant difference in minimal vascular resistance was found between diabetic and control subjects (right).

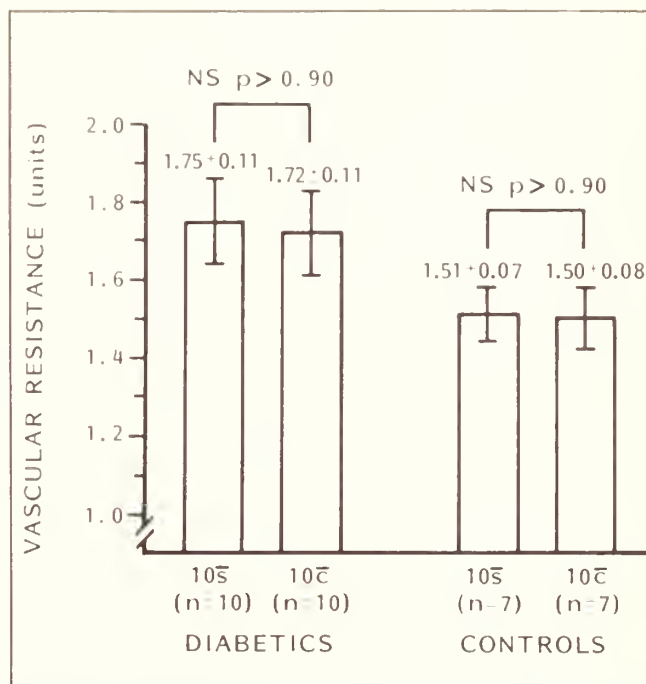


FIGURE 3: Verification of maximal dilation in diabetic (left) and control subjects (right) during 10 minutes without exercise (10/s) and 10 minutes with exercise (10/c). No difference was demonstrated in minimal vascular resistance after 10 minutes of arterial occlusion with or without exercise within the diabetic or control population.

withdrawn from the right arm for analysis of blood prior to ischemia. Then, the two cuffs were placed around the left arm as previously described and inflated to suprasystolic pressure for 10 minutes. After 10 minutes of cuff inflation, but before deflating the cuffs, a 30 ml venous blood sample was withdrawn from the arm distal to the upper arm cuff. This blood is referred to as postischemic blood.

**Calculations and Statistical Analysis:** Statistical comparison of the MVR of diabetic and control groups was done using an unpaired Student's t-test. The comparison of diabetic and control groups both with and without exercise was done using a paired t-test. The correlation between acute and chronic HbA<sub>1c</sub> values and MVR was determined using Pearson's coefficient of correlation. Data were expressed as mean ± SEM. Significance was con-

sidered at  $p < 0.05$ .

### Results

**Blood Pressure and Forearm Vascular Dynamics:** Systolic and diastolic pressure did not differ between the control and diabetic (DM) groups during either resting conditions or during maximal dilation. [DM: Rest  $129 \pm 2/70 \pm 1$  mm Hg (mean ± SE), test  $130 \pm 2/67 \pm 2$ , Control: Rest  $128 \pm 2/66 \pm 1$ , Test  $129 \pm 1/67 \pm 1$ ]. Resting forearm vascular resistance also did not differ between the diabetic ( $22.7 \pm 2.3$  units) and control ( $24.9 \pm 1.8$ ,  $p > 0.50$ ) subjects (Fig. 2, left). In 33 subjects, forearm vascular resistance was measured after six minutes of arterial occlusion. The vascular resistance of diabetics ( $2.1 \pm 0.09$  units,  $n=19$ ) did not differ from controls ( $1.86 \pm 0.11$ ,  $n=14$ ,  $p > 0.20$ ). However, after 10 minutes of arterial occlusion, minimal

vascular resistance was significantly different between diabetics ( $1.68 \pm 0.07$  units) and controls ( $1.48 \pm 0.04$ ,  $p < 0.01$ ) (Figure 2, right). Lastly, the diabetic group with poor control (acute or chronic HbA<sub>1c</sub> > 9.0) had a significantly elevated minimal vascular resistance as compared to the diabetic group with good control (acute or chronic HbA<sub>1c</sub> > 9.0) or the non-diabetic control group (Table 1).

**Reproducibility of Minimal Vascular Reactions:** When minimal vascular resistance was reproduced on the same day, there was an average difference of  $5 \pm 1\%$  ( $n=10$ ) (Table 2). When repeated on different days, the minimal vascular resistance differed by an average of  $4 \pm 1\%$  ( $n=9$ ) (Table 2). In addition, there was no further decrease in minimal vascular resistance when hand exercise was combined with the last minute of arterial occlusion [ $1.51$

$\pm 0.07$  units 10 minutes arterial occlusion without exercise and,  $1.50 \pm 0.08$  10 minutes arterial occlusion with exercise ( $p > 0.90$ ) (Figure 3).

**Hematologic Studies:** The pretest and postischemic blood samples analyzed for prostacyclin levels were found to be less than 10 pg/0.1 ml in both the diabetic and control groups. The thromboxane levels in the pretest and postischemic blood samples did not differ significantly. (DM:  $19.0 \pm 5.0$  to  $26 \pm 8$  pg respectively, NS; Control:  $24 \pm 15$  to  $22 \pm 7.0$  pg, NS). The measurements of spontaneous platelet aggregation also did not differ between pretest and postischemic blood samples in either group of subjects (DM:  $9.0\% \pm 1.6$  to  $6.6\% \pm 1.8$  respectively, NS; Control:  $5.6\% \pm 0.8$  to  $7.6\% \pm 1.1$ , NS). Lastly, the circulating immune complex test was negative for all blood samples taken from both diabetics and controls.

**Correlation Between Minimal Vascular Resistance, Chronic HbA<sub>1c</sub>, Acute HbA<sub>1c</sub>, Glucose and Duration of Diabetes:** There was a strong positive correlation between chronic HbA<sub>1c</sub> levels (one year average) and minimal vascular resistance after 10 minutes of

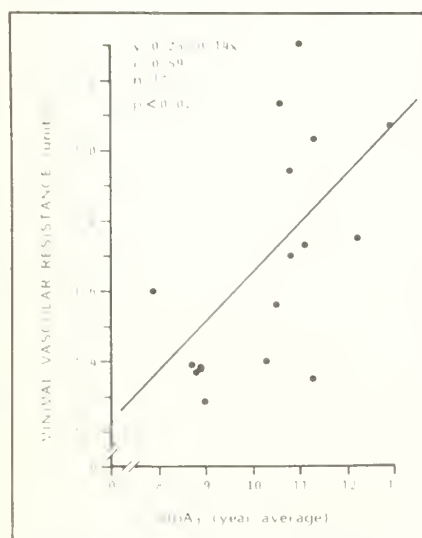


FIGURE 4: Correlation of Minimal Vascular Resistance to chronic HbA<sub>1c</sub> levels of Diabetic subjects ( $n=17$ ,  $r=0.59$ ,  $p < 0.02$ ).

TABLE 1  
Stratification of Minimal Vascular Resistance (MVR) in Diabetes and Controls According to Duration of Control

	Diabetics		Controls
	HbA <sub>1c</sub> $\leq 9.0$	HbA <sub>1c</sub> $> 9.0$	
Acute MVR	$1.49 \pm 0.1$	$1.80 \pm 0.1^*$	$1.48 \pm 0.4^{***}$
Chronic MVR	$1.40 \pm 0.04$	$1.81 \pm 0.9^{**}$	

\* $p < 0.05$  compared to HbA<sub>1c</sub>  $\leq 9.0$

\*\* $p < 0.005$  compared to HbA<sub>1c</sub>  $\leq 9.0$

\*\*\* $p < 0.01$  compared to acute and chronic HbA<sub>1c</sub>  $> 9.0$

TABLE 2  
Reliability of the Technique

	n	Trial 1 (MVR)	Trial 2 (MVR)	% Diff	p
Same day	10	$1.52 \pm 0.1$	$1.60 \pm 0.1$	$5 \pm 1$	$p > 0.70$
Different Day	9	$1.70 \pm 0.1$	$1.77 \pm 0.1$	$4 \pm 1$	$p > 0.90$

arterial occlusion ( $r=0.59$ ,  $p < 0.02$ ) (Figure 4). Pertinent data on each of the subjects used to generate Figure 4 may be found in Table 3. There was also a tendency for correlation between acute HbA<sub>1c</sub> values (at the time of the test) and minimal vascular resistance after 10 minutes of arterial occlusion, but the correlation did not reach significance ( $r=0.37$ ,  $p > 0.1$ ). No correlation was found either between blood glucose levels measured at the time of the test (12 diabetics) and the minimal vascular resistance ( $r=0.02$ ,  $p > 0.1$ ), or between the duration of diabetes and minimal vascular resistance ( $r=0.11$ ,  $p > 0.1$ ) (Table 4).

#### Discussion

The major finding in this study is that poor diabetic control is associated with an elevation in forearm minimal vascular resistance in juvenile-onset diabetes mellitus. An alteration in the diabetic vasculature is presumed to be the cause since circulating vasoactive substances appeared not to have contributed. Furthermore, the increase in minimal vascular resistance can be prevented or reversed with good

diabetic control.

Several important comments should be stated concerning our methodological approach. First, our assumption that maximal dilation is maximal was documented in 17 of our subjects by adding handgrip exercise to the last minute of arterial occlusion.<sup>7</sup> Second, only male subjects were used to avoid any hormonal influences on the vasculature that would affect our measurements of resistance.<sup>11</sup> Third, blood glucose control was determined acutely, subacutely, and chronically by recording the glucose and HbA<sub>1c</sub> values on the day of the test plus HbA<sub>1c</sub> values averaged over the year prior to testing. This provided the maximal opportunity for correlating the length of glucose control with minimal vascular resistance.

We considered the possibility that increases in minimal vascular resistance might be due to the humoral substance circulating in the blood. Previous studies have reported that norepinephrine and angiotension administration, either intravenously or intra-arterially, did not affect minimal vascular resistance during peak reac-

TABLE 3  
Characteristics of Diabetic Subjects

	Age	Sex	Ht	Wt	Yrs Diabetic	HbA <sub>1</sub>	MVR	Med Hx
S.A.	17	M	6'2"	175	10	12.9	2.07	Neg
M.O.	20	M	5'11"	170	7	12.2	1.75	Neg
D.H.	20	M	5'2"	122	18	11.5	1.35	Neg
P.M.	15	M	5'10"	139	6	11.3	2.03	Neg
R.W.	18	M	5'8"	131	5	11.1	1.73	Neg
G.F.	36	M	5'7"	133	15	11.0	2.30	Neg
K.C.	27	M	5'9"	176	18	10.8	1.7	Diabetic Retinopathy requiring laser tx.
R.E.	20	M	5'9"	157	15	10.6	2.13	Neg
J.W.	19	M	6'0"	140	15	10.5	1.54	Neg
L.L.	35	M	5'11"	161	7	10.3	1.94	Neg
T.D.	15	M	5'11"	145	10	10.3	1.40	Neg
T.B.	36	M	5'9"	156	6	9.0	1.29	Neg
C.D.	23	M	5'9"	174	12	8.9	1.38	Neg
J.S.	35	M	5'11"	201	19	8.9	1.38	Neg
J.B.	23	M	5'10"	164	14	8.8	1.37	Neg
MLS.	23	M	5'3"	139	13	8.7	1.39	Neg
R.G.	28	M	5'10"	175	8	7.9	1.60	Neg

tive hyperemia.<sup>7</sup> However, the levels of other circulating, reactive vasoactive substances have been reported to be abnormal in diabetics.<sup>12-15</sup> Therefore, we measured the levels of these substances in the blood of diabetic and control subjects before and after reactive hyperemia. In both the diabetic and control groups the prostacyclin, thromboxane, platelet aggregation and circulating immune complex levels did not differ. This indicated that these circulating substances did not contribute to the difference in minimal vascular resistance found between our diabetic and control groups.

The elevation of minimal vascular resistance in diabetics must have resulted from either a functional or structural change in the microvascular decreasing the cross-sectional area at maximal dilation. We were not able to determine whether a structural or functional change did exist in our

diabetics using our techniques, but previous studies have addressed this issue. A structural thickening of the capillary basement membrane has been widely reported as the hallmark of diabetic microangiopathy.<sup>16</sup> If the increase in basement membrane were to increase the wall/lumen ratio, this would decrease the cross-sectional area at maximal dilation. In addition, since the basement membrane is reported to be relatively inelastic,<sup>17</sup> marked thickening of this structure might also functionally limit microvascular vasodilation. Another contributing factor would be the increase in collagen to elastin ratio of the arterial microvasculature. This phenomenon has been reported in the large vessels of diabetics<sup>18</sup> and leads to arterial rigidity. However, this abnormality has not been reported in the microvasculature. The possibility exists that a reduced metabolic stimulus may have con-

tributed to the results. This seems unlikely since the minimal vascular resistance in diabetic subjects following ischemia and exercise was significantly greater than that in the normal subjects after ischemia alone.

Other studies have also used plethysmography to measure the vasculature of diabetic humans. Greeson and colleagues<sup>19</sup> combined plethysmography with isotope clearance techniques to demonstrate a diminished capacity for vasodilation in the cutaneous lower extremity of diabetic patients. Katz and Janjan<sup>20</sup> used plethysmography to demonstrate a higher forearm vascular resistance in diabetics during tonic finger exercise. Our study differs from those of these investigators in several ways. We used the forearm vascular bed because it better represents the microvasculature than the fingers or skin. In addition, we not only showed that diabetics had a higher forearm minimal vascular resistance than controls, but we also showed that diabetic control inversely correlated with forearm minimal vascular resistances. It is interesting to note that subacute (same day) HbA<sub>1</sub> values did not correlate with minimal vascular resistance, while chronic (one year average) HbA<sub>1</sub> values had a significant correlation. This finding suggests that the effect of an elevated blood glucose on the microvasculature is a chronic process rather than acute.

The long-term control of blood glucose in both animal and human studies has been found to prevent or reverse vascular alterations. Vasculopathy and glomerulopathy were either reversed or prevented in diabetic rats with insulin treatment.<sup>21-24</sup> Several human studies have shown that microvascular complications, including an increased basement membrane width, could be reversed by early insulin treatment and good blood glucose control.<sup>2,3,4,5</sup> Our study supports this growing body of evidence that good control of blood glucose is important in preventing or reversing microvascular complications.



In summary, the results of this study indicate that a positive correlation exists between blood glucose control and vascular pathology in juvenile-onset diabetes mellitus. One can surmise that poor diabetic control leads to vascular disease, which limits the function of host tissue and leads to limb ulcers. On the other hand, good diabetic control appears to prevent or reverse microvasculature changes.

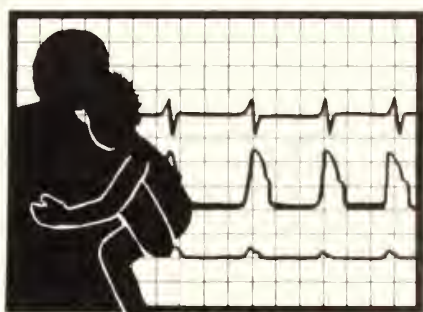
# REFERENCES

1. Crofford OB: Report of the National Commission on Diabetes, Vol 1: The Long Range Plan to Combat Diabetes. Publ no (NIH) 76 1018. US Dept of Health, Education and Welfare. Public Health Service, National Institutes of Health, 1976.
2. Raskin P: Diabetic regulation and its relationship to microangiopathy. *Metabolism*, 27:235-52, 1978.
3. Camerini Davolos RA, Velaseo C, Glasser M, Bloodworth JMB Jr: Drug induced reversal of early diabetic microangiopathy. *N Engl J Med*, 309:1551-6, 1983.
4. Raskin P, Pietri AO, Unger R, Shan non WA: The effect of diabetic control on the width of skeletal muscle capillary basement membrane in patients with Type I diabetes mellitus. *N Engl J Med*, 311:1546-1550, 1984.
5. Sosenki JF, Miettinen OS, Williamson JR, Gabray KH: Muscle capillary basement membrane thickness and long term glycemia in type I diabetes mellitus. *N Engl J Med*, 311:694-698, 1984.
6. Siperstein MD: Diabetic microangiopathy and the control of blood glucose (Editorial). *N Engl J Med*, 309:1577-1579, 1983.
7. Takeshita A, Mark AL: Decreased vasodilator capacity of forearm resistance vessels in borderline hypertension. *Hypertension*, 2(5):610-616, 1980.
8. Zoller RP, Mark AL, Abboud FM, Schmid PG, Heistad DD: The role of low pressure baroreceptors in reflex vasoconstrictor responses in man. *J Clin Invest*, 51:2967-2974, 1972.
9. Triplett DA, ed: Platelet Function: Laboratory Evaluation and Clinical

TABLE 4			
Correlation of Minimal Vascular Resistance to HbA <sub>1</sub> Values, Blood Glucose and the Duration of Diabetes Mellitus in Diabetic Subjects			
Minimal Vascular Resistance Vs.	n	Correlation Coefficient (r)	Significance (p)
Chronic HbA <sub>1</sub>	17	0.59	*p < 0.02
Acute HbA <sub>1</sub>	19	0.37	p > 0.1
Blood Glucose	12	0.02	p > 0.1
Duration of DM	19	0.11	p > 0.1

- Application. Chicago: Educational Products Division, American Society of Clinical Pathologists. p 219, 1978.
10. Lamberson H, Gilmore NJ, Osterland CK: Nephelometric quantitation of immune complexes. *Proceedings of Federation of American Society of Experimental Biologists*, 37:2193, 1978.
11. Webb CR, Rusch NJ, Vanhoutte PM: Influence of sex difference and oral contraceptives on forearm reactive hyperemia. *Blood Vessels*, 1:161-170, 1981.
12. Kwaan HC, Colwell JA, Cruz S, Suwanwela N, Dobbie JG: Increased platelet aggregation in diabetes mellitus. *J Lab Clin Med*, 80(2):236-246, 1972.
13. Halushka PV, Rogers RC, Loadholt CB, Wohltman H, Mayfield R, McDoy S, Colwell JA: Increased platelet prostaglandin and thromboxane synthesis in diabetes mellitus. *Diabetes*, 32:315-321, 1983.
14. Colwell JA, Sagel J, Crook L, Chambers A, Maimins M: Correlation of platelet aggregation, plasma factor activity, and megathrombocytes in diabetic subjects with and without vascular disease. *Metabolism*, 26(3):279-285, 1977.
15. Colwell JA, VanZile J, Kilpatrick MM, Nair RMG, Virella G: Plasma factors and platelet aggregation in diabetes mellitus. Pathogenic concepts of diabetic microangiopathy. Hormone and Metabolic Research, Supplement Series Vol. 1. International Workshop, Garmisch-Grainay, 1980. 1981 George Thieme Verlag. Thieme-Stratton Inc. New York pp 1-6.
16. Siperstein MD, Unger RH, Madison LL: Studies of muscle capillary basement membranes in normal subjects, diabetic, and prediabetic patients. *J Clin Invest*, 47:1973-99, 1967.
17. Murphy ME, Johnson PC: Possible contribution of basement membrane to the structural rigidity of blood capillaries. *Microvascular Research*, 9:242-245, 1975.
18. Houston JH, Abboud EM: Measurement of arterial aging in relation to diabetes mellitus. *Circulation*, 25:938-946, 1962.
19. Greeson P, Freedman RT, Levan NE, Wong WH: Cutaneous cardiovascular responses in diabetes. *Microvas Res*, 10:8-16, 1985.
20. Katz MA, Janjan N: Forearm hemodynamics and responses to exercise in middle-aged adult onset diabetic patients. *Diabetes*, 27:726-731, 1978.
21. Pfaffman MA, Ball CR, Darby A, Hilman R: Insulin reversal of diabetes induced inhibition of vascular contractility in the rat. *Am J Physiol*, 242:H490-H495, 1982.
22. Rash R: Prevention of diabetic glomerulopathy in streptozotocin diabetic rats by insulin treatment. *Diabetologia*, 18:413-416, 1980.
23. Mueller SM: Insulin reversal of alloxan diabetic sympathetic dysfunction in the adult rat. *Submitted*.
24. Mueller SM: Insulin treatment prevents vascular dysfunction in early juvenile alloxan-induced diabetes mellitus. *Am J Physiology*, 247 (Heart and Circ. Physiol. 16):H132-H138, 1984.

# Unusual Causes of Life-Threatening Upper Airway Obstruction



## PEDIATRIC CRITICAL CARE MEDICINE

STEPHEN K. NUGENT, M.D.<sup>1</sup>

JOE M. HANNAH, M.D.<sup>2</sup>

JAMES G. SPAHN, M.D.<sup>3</sup>

C. WILLIAM JOHNSON, M.D.<sup>4</sup>

THOMAS J. SPAHN, M.D.<sup>5</sup>

THOMAS E. McSOLEY, M.D.<sup>6</sup>

**O**THER THAN cardiopulmonary arrest, upper airway obstruction is perhaps the most life-threatening acute emergency of childhood. In each of the following cases of different and unusual causes of airway obstruction, emergency room intubation was lifesaving.

### Case 1

A 5-year-old boy was admitted to an outlying hospital in respiratory distress following an 18-hour history of sore throat and barking cough. He was tachypneic with intercostal and substernal retractions and had a temperature of 104. He was able to vocalize and swallow. Despite therapy for a diagnosis of acute laryngotracheobronchitis and pneumonia, his condition worsened, necessitating transfer. Upon arrival at another hospital, his respirations were bag-and-mask assisted. He was cyanotic, obtunded, and retracting with weak respiratory effort. Emergent intubation (4.5 mm uncuffed endotracheal tube) was successful and the patient was transferred to the Methodist Hospital Pediatric Intensive Care Unit (PICU) with a diagnosis of probable epiglottitis. Flexible fiberoptic transnasal laryngoscopy revealed a normal epiglottis and supraglottis. Copious secretions were suctioned from the endotracheal tube (ETT). Cefuroxime was begun for probable bacterial tracheitis. Controlled extubation in the operating room five days later was followed in minutes by inspiratory airway obstruction necessitating reintubation and tracheostomy. Bronchoscopy revealed diffuse tracheitis without purulence and a 2 mm subglottic airway. Six days later the

tracheostomy was removed and the patient discharged the next day.

### Discussion

This patient's illness was characteristic of both viral croup (normal supraglottic anatomy with subglottic tracheal narrowing) and epiglottitis (high fever and rapid onset of severe distress and airway obstruction which may progress to respiratory arrest). In this case the presumed viral croup was refractory to standard therapy, a characteristic of bacterial tracheitis. These features, in addition to the presence of copious purulent tracheal secretions identified at bronchoscopy and/or suctioned from an artificial airway, constitute the basic clinical criteria for bacterial tracheitis.<sup>1,5</sup> While *Staphylococcus aureus* (occasionally *Hemophilus influenzae* or streptococcus) is most frequently cultured, it is unclear whether this organism is primarily responsible for the tracheitis or whether it represents a secondary bacterial infection in patients with an initial viral respiratory tract infection.<sup>6</sup> When bacterial tracheitis is diagnosed by direct laryngoscopy/bronchoscopy, nasotracheal tube or tracheostomy is, with few exceptions, the treatment of choice along with appropriate antibiotic therapy. Acute total airway obstruction from subglottic edema and purulent secretions can thus be avoided. Given our experience with this patient and others with subglottic airway obstruction, we feel that an appropriately performed and cared for tracheostomy is the definitive nonemergent airway of choice. Tracheostomy is a more stable airway, thick secretions can more effectively

<sup>1,2</sup>Pediatric Intensive Care Unit, Methodist Hospital of Indiana, Inc., Indianapolis.

<sup>3,4</sup>Otolaryngology, Head and Neck Surgery, 1801 N. Senate Blvd., Suite 548, Indianapolis, Ind. 46202.

Correspondence: Stephen K. Nugent, M.D., Medical Director, Pediatric Intensive Care Unit, Methodist Hospital of Indiana, Inc., 1604 N. Capitol Ave., Indianapolis, Ind. 46202.

be suctioned, and it bypasses some if not all of the inflamed area, allowing optimum conditions for edema resolution. Subsequent tolerance of a smaller "plugged" tracheostomy assures successful decanulation.

## Case 2

A 5-year-old boy fell one afternoon in a bathroom, hitting the inferior portion of his mandibular body on a towel rack. He became "hoarse" but was in no respiratory distress. He awakened that night with severe stridor and retractions and was taken to an emergency room where emergent intubation (4 mm uncuffed ETT) was required for cyanosis, stridor, and near respiratory arrest. At Methodist Hospital PICU admission he was tachypneic and retracting. Pulmonary edema fluid was continually suctioned from the ETT and his lungs were diffusely hazy on x-ray. Lasix, morphine, and mechanical ventilation to eliminate spontaneous negative pressure breathing resulted in cessation of respiratory distress and a  $\text{paO}_2$  of 400 mm Hg on 100% oxygen. A traumatic linear bruise was noted under the patient's mandible as was an old tracheostomy scar over the anterior neck. Past history was remarkable for many episodes of "croup" as early as two months of age and as recently as four months prior to this admission, one episode requiring a tracheostomy. Bronchoscopy had never been performed. Flexible fiberoptic laryngoscopy revealed severe diffuse supraglottic edema enveloping the ETT, making vocal cord visualization impossible. A tracheostomy was performed in the operating room. Rigid bronchoscopy seven days later revealed segmental subglottic stenosis of congenital origin with almost complete resolution of the traumatic supraglottic edema. He was discharged 10 days after admission with a Jackson metal tracheostomy to return in 1-2 months for bronchoscopy and possible decanulation.

## Discussion

Two causes of upper airway obstruction were evident in this patient, one acute and traumatic, the other chronic, congenital, and undiagnosed until this admission. The history of stridor which occurred during the first months of life with a first upper respiratory infection and repeatedly with subsequent infections suggested the presence of a congenital laryngeal obstructive anomaly.<sup>7</sup> Stridor from a congenital subglottic stenosis may be present at birth. More often it occurs early and repeatedly as mucosal edema from viral respiratory illnesses compromises a congenitally narrowed subglottic area. Stridor, retractions, and sometimes wheezing with exercise and crying, feeding difficulty, and recurrent pulmonary infections may also be present. The obstruction from congenital subglottic stenosis is typically cartilaginous (abnormally small or abnormally shaped cricoid cartilage) or soft-tissue (redundant submucosal fibrous tissue).<sup>8</sup> Treatment is individualized according to severity of distress at diagnosis, age, and location and degree of obstruction.<sup>7</sup> The patient described had a 20% subglottic congenital tracheal obstruction at bronchoscopy. Decanulation was delayed to allow optimum resolution of all supra- and infraglottic edema. This patient also demonstrated pulmonary edema associated with upper airway obstruction and/or its relief.<sup>9</sup> High negative intrathoracic pressures from spontaneous breathing through a small, high-resistance ETT exacerbated the edema, which was relieved by positive-pressure mechanical ventilation and tracheostomy.

## Case 3

A 22-month-old afebrile girl presented to an emergency room following the rapid onset of coughing, cyanosis, stridor, gasping respirations, and little response to pain. She had been recovering from a recent hospitalization for pneumonia, which had been a recurrent problem in another state. Past history was also remarkable for

a Kasai procedure for biliary atresia at two months. Marked clinical improvement followed intubation and suctioning of copious secretions, hence she was extubated. X-ray showed several right pulmonary infiltrates. At Methodist Hospital PICU admission she was in minimal respiratory distress with a respiratory rate of 36 in 40% oxygen ( $\text{paO}_2$  128 mm Hg). Abdominal distension and hepatomegaly were present. Cefuroxime and chest physical therapy were begun. Two days later on the pediatric ward she had the first of several episodes of acute stridor preceded by coughing and necessitating PICU re-admission. Frequent coughing spells associated with bottle feeding or awakening from sleep were followed by emesis, stridor, and supra-sternal retracting. Barium esophagram demonstrated reflux to the aortic arch level. Swimmer's view of the lateral neck and airway fluoroscopy suggested pharyngeal, laryngeal, and subglottic edema. Rigid bronchoscopy revealed supra- and infraglottic edema and posterior tracheal wall granulation tissue secondary to esophageal reflux and aspiration. Ranitidine ( $\text{H}_2$  blocker) and solid food after any liquid intake, along with previously instituted metoprolamide (Reglan), upright positioning maintained with an inflatable air mattress after feeds and at night, and cessation of bottle feeding, produced a rapid decrease in coughing spells and no further episodes of inspiratory airway distress.

## Discussion

This patient demonstrated clinical evidence of both lower and upper respiratory tract involvement. Recurrent pneumonia with or without vomiting is a well-described manifestation of gastroesophageal reflux in infants and children.<sup>10</sup> Increased intra-abdominal pressure from hepatomegaly might have been a predisposing factor to reflux in this patient who incidentally is a candidate for hepatic transplantation (hence the importance of trying aggressive medical anti-reflux



therapy). The acuteness and severity of upper airway obstruction is unusual and difficult to easily explain. Laryngospasm, inability to clear pulmonary secretions beyond an edematous airway, and/or intermittent aspiration and increase in airway edema beyond a critical point are possible explanations.

#### REFERENCES

1. Jones R, Santos J, Overall J: Bacterial tracheitis. *JAMA*, 242:721, 1979.
2. Han BK, Dunbar JS, Striker TW: Membranous laryngotracheobronchitis (membranous croup). *AJR*, 133:58, 1979.
3. Liston SL, Gehrz RZ, Siegel LG, Tilelli J: Bacterial tracheitis. *Am J Dis Child*, 137:764, 1983.
4. Friedman EM, Jorgensen K, Healy GB, McGill TJ: Bacterial tracheitis: Two year experience. *Laryngoscope*, 95:9, 1985.
5. Jevon T, Blake RL: Bacterial tracheitis and the child with inspiratory stridor. *J Fam Prac*, 20:195, 1985.
6. Edwards KM, Dudson MC, Altemeier WA: Bacterial tracheitis as a complication of viral croup. *Pediatr Infect Dis*, 2:390, 1983.
7. Smith RJ, Catlin FI: Congenital anomalies of the larynx. *Am J Dis Child*, 138:35, 1984.
8. Tucker GF, Ossoff, RH, Newman AN, Holinger LD: Histopathology of congenital subglottic stenosis. *Laryngoscope*, 89:866, 1979.
9. Richman BJ, Nugent SK, Hannah JM, et al: Pediatric epiglottitis: A review of 34 patients. *Indiana Medicine*, 78:760, 1985.
10. Berquist WE, Rachelefsky GS, Kadden M, et al: Gastroesophageal reflux associated recurrent pneumonia and chronic asthma in children. *Pediatrics*, 68:29, 1981.

## TIPTON COHEN & KOCH

Attorneys at Law  
Morrison Opera Place  
Suite 200  
47 South Meridian Street  
INDIANAPOLIS, INDIANA 46204  
(317) 634-6550

#### Consents and Guidelines:

Operative Consents  
Ambulatory Surgery and  
Anesthesia Guidelines  
Policies and Procedures  
for Patient Care

#### Medical Malpractice Defense:

Litigation  
Risk Management



#### Patient Account Collection:

Self Pay  
Private Insurance  
Medicaid  
Medicare  
Hospital Care for Indigent  
Crippled Children's

JOE TIPTON, J.D. STEVEN J. COHEN, J.D. EDNA M. KOCH, R.N., J.D.

# Congestive Cardiomyopathy: Treatment Advances

## Endomyocardial Biopsy, New Inotropes, Beta-Blockade

JOHN D. SLACK, M.D.<sup>1</sup>  
WILLIAM K. NASSER, M.D.<sup>2</sup>  
Indianapolis

**T**HE GRIM PROGNOSIS associated with congestive (dilated) cardiomyopathy has been recognized for years.<sup>1</sup> Recent efforts to separate groups with high vs. low short-term risk of sudden death and other complications have been partially successful. For example, dilated cardiomyopathy due to chronic hypertension in which long term blood pressure control is achieved is associated with a favorable prognosis. Similar good long-term survival rates are seen in dilated cardiomyopathy associated with alcohol abuse when abstinence from alcohol is maintained. A third group of patients whose clinical course may respond favorably to intervention is

that of inflammatory myocarditis.<sup>2</sup>

With the advent of heart transplantation as a viable alternative to traditional medical therapy it has become critically important for the clinician to identify patients with high short-term risk likely to be medically refractory so that early consideration for transplantation can be scheduled. Just as important is the identification of those patients likely to respond to the newer forms of medical treatment available such as steroid/immunosuppressive agents, non-glycoside inotropes and/or beta blockers.

The variety of causes of congestive

cardiomyopathy (*Table 1*) makes definitive diagnosis difficult. Complicating matters further, much of the damage from infectious and toxic causes may have been irreversibly done by the time the patient presents to the clinician with symptoms of congestive heart failure.<sup>3</sup> Nevertheless, early identification of an active inflammatory component, an underlying collagen disease, or an infiltrative disorder can facilitate directed therapy.<sup>4,6</sup> Endomyocardial biopsy and, to a lesser extent, gallium-67 myocardial scanning, may be useful in this setting.<sup>6,7</sup>

TABLE 1  
Important Causes of Congestive Cardiomyopathy

- |       |  |
|-------|--|
| I.    | Inflammatory   |
| A.    | Infective  |
| 1.    | direct invasion, e.g., viral, parasitic              |
| 2.    | exotoxin, e.g., diphtheria                           |
| 3.    | autoimmune mediator, e.g., rheumatic fever           |
| II.   | Metabolic  |
| A.    | Nutritional, e.g., thiamine deficiency               |
| B.    | Endocrine, e.g., myxedema, diabetes                  |
| C.    | Altered metabolism, e.g., porphyria                  |
| D.    | Electrolyte imbalance, e.g., hypophosphatemia        |
| III.  | Toxic, e.g., alcohol                                 |
| IV.   | Infiltrative, e.g., amyloid, neoplasm, sarcoid       |
| V.    | Fibroplastic, e.g., carcinoid                        |
| VI.   | Hematologic, e.g., sickle cell, leukemia             |
| VII.  | Hypersensitivity, e.g., cardiac transplant rejection |
| VIII. | Genetic, e.g., some muscular dystrophies             |
| IX.   | Acquired, e.g., postpartum, obesity                  |
| X.    | Physical agents, e.g., trauma, radiation             |
| XI.   | Idiopathic   |

From the Dept. of Medicine (Cardiology Section), St. Vincent Hospital and Health Care Center, Indianapolis, Ind.

<sup>1</sup>Clinical Assistant Professor of Medicine, Indiana University School of Medicine.

<sup>2</sup>Clinical Professor of Medicine, Indiana University School of Medicine.

Correspondence: John D. Slack, M.D., St. Vincent Hospital Professional Bldg., 8402 Harcourt Road, Suite 400, Indianapolis, Ind. 46260.

Acknowledgments: Mrs. Jean Crank for manuscript preparation and Bruce Waller, M.D., for pathologic interpretation of the myocardial biopsy specimens.



FIGURE 1A: Myocardial biopsy forcep opened in contact with the right ventricular side of the interventricular septum in preparation for sampling.



FIGURE 1B: Closure of biptome cutting forcep permitting extraction of 1 x 1 mm myocardial samples for microscopy and/or culture.

#### Endomyocardial biopsy/ Gallium-67 myocardial scan

Gallium-67 uptake in areas of inflammation or tumor following intravenous injection imaged by nuclear scanning techniques has proved useful as a non-invasive locator of pathologic processes. Myocardial uptake has been associated with a variety of causes of congestive cardiomyopathy, including inflammatory (both infective and non-infective), infiltrative, fibroplastic, hematologic, hypersensitivity, genetic, physical and idiopathic.<sup>8</sup> Obviously, "blind" therapy using steroids and/or immunosuppressive agents will have differing effects dependent upon the underlying cause of gallium-67 positivity. Further diagnostic efforts to define the *actual* cause of congestive cardiomyopathy with appropriate historical information, serological and other laboratory tests and possibly myocardial biopsy, are warranted. It should be emphasized that several causes of concentric myocardial hypertrophy such as hypertensive heart disease, aortic stenosis, or non-concentric hypertrophy such as hypertrophic cardiomyopathy (IHSS) may cause false-positive gallium-67 scans. Other causes of "false-positive" myocardial gallium-67 scans include myocardial infarction, endocarditis, myocardial abscess, tumor infiltration, pericarditis, and vasculitis.<sup>9</sup> It is felt, therefore, that

treatment with steroids and/or immunosuppressives, which can be potentially harmful to the patient due to their significant side effects, should not be begun without carefully weighing the risk of these therapies when used unnecessarily.

We have found the use of endocardial biopsy with direct inspection of heart tissue particularly useful in patients with new onset congestive heart failure (less than three months). In performing endomyocardial biopsy percutaneously, a forcep similar to that used during gastroscopy or bronchoscopy is placed through a catheter and guided by fluoroscopy into the right ventricle.<sup>10</sup> The right ventricular side of the intraventricular septum is sampled. (see *Figure 1*) The sensations experienced by the patient during biopsy are similar to those of routine cardiac catheterization.

Non-sustained ventricular tachycardia often occurs when the biptome is in contact with the myocardium during sample extraction. Risk of cardiac perforation with tamponade is minimal (less than 1:1000) when performed by an experienced operator. We have performed 45 biopsies at St. Vincent Hospital over the past two years without incident. Of these 45, three were performed to evaluate the patient's suitability for combined high dose Adriamycin administration and 42

were to evaluate possible active myocarditis. Twenty-two of the 42 had negative gallium-67 myocardial scans, while 20 were positive. Of the 20 with positive scans, only three had active myocarditis on biopsy. Each of these three has improved with steroid therapy. Eleven patients who had positive gallium-67 scans but negative biopsies were empirically tried on steroids—only two improved. Six patients with positive gallium-67 scans but negative biopsies had traditional therapy with afterload reduction and two improved.

Of the 22 patients with negative gallium scans, three were found to have acute inflammatory changes on biopsy and all three improved with steroid and/or immunosuppressive therapy. Two others who were biopsy-negative were tried on empiric steroid therapy without success. The other 17 with negative gallium scans and negative myocardial biopsy were treated with traditional therapy: one improved with cessation of alcohol; one improved with treatment of hypertension. Two of these patients required cardiac transplantation; the remaining 13 remain Functional Class III or IV on medical therapy.

In summary, gallium-67 myocardial scanning yields valuable but non-specific information regarding the question of active inflammation or in-



filtrative cardiac disease. Its relatively poor sensitivity for recognition of myocarditis (44%) makes myocardial biopsy desirable to facilitate specific diagnosis and allow directed therapy.<sup>11</sup> Because inflammatory myocarditis can proceed rapidly to an irreversible state, early use of myocardial biopsy in the setting of new onset congestive heart failure or arrhythmia is urged, particularly if there is evidence of recent viral illness or other signs of chronic inflammation such as elevated sediment rate, abnormal complement levels or positive signs of collagen vascular disease in serologic studies. Myocardial biopsy also allows prognostic information to be obtained for the patient and family. If there is muscle hypertrophy with minimal fibrosis, the short- and long-term prognosis is considerably better than if severe fibrosis is present.<sup>12</sup>

### Inotropic Agents

For over a century, digitalis glycosides have been employed to enhance cardiac contractility.<sup>13</sup> Despite their known toxicity, narrow therapeutic index and relatively mild inotropic effect, their use has continued by necessity as no other oral agent has been approved for this indication.<sup>14</sup> Recent research has yielded a number of new drugs with favorable positive inotropic effects. Clinical investigation of some "old" drugs such as theophyllin has also provoked renewed interest. The main classes of compounds which have emerged into clinical trials for treatment of congestive cardiomyopathy are listed in *Table 2*.

Preliminary reports are encouraging but problems with side effects, arrhythmogenicity and tachyphylaxis have not been resolved. At the worst, it may be hoped that these drugs will improve the quality of life without prolonging it as they do not remedy the underlying cardiac problem. At best, they may slow the inexorable progression of left ventricular dysfunction and permit enhanced survival. Presently, trials are underway to permit accurate

**TABLE 2**  
**Possibly Useful Oral**  
**Inotropic Agents**

- |                                       |
|---------------------------------------|
| I. Beta agonists                      |
| A. Corwin                             |
| B. Prenalterol                        |
| C. H 80/62                            |
| D. ICI 118,587                        |
| E. Pirbuterol                         |
| F. Salbutamol                         |
| G. Butopamine                         |
| H. Ephedrine                          |
| I. Terbutaline                        |
| J. Fenoterol                          |
| II. Dopaminergic                      |
| A. Levodopa                           |
| B. Ibopamine                          |
| C. Propylbutyldopamine                |
| III. Phosphodiesterase Inhibitors     |
| A. Aminophylline                      |
| B. Sulmazol                           |
| C. UD-CG 212                          |
| D. UD-CG 115                          |
| IV. Non-glycoside, non-Beta Inotropes |
| A. Milrinone                          |
| B. MDL 17043                          |
| C. MDL 19205                          |
| V. Calcium Inophores                  |
| A. RO 13-6438                         |
| VI. Adenylate cyclase stimulant       |
| A. Forskolin                          |
| B. Coenzyme Q                         |

identification of this latter subgroup and to further identify the most promising agents.<sup>15</sup>

### Beta Blockers

In view of the severe left ventricular dysfunction manifest in congestive cardiomyopathy and the traditional use of positive inotropic agents as a cornerstone of therapy, it seems ridiculous on initial thought to even consider beta blockade therapy with its known adverse effects on left ventricular function and propensity to worsen congestive heart failure in patients with marginal compensation. Nevertheless,

reports of beneficial effects on both symptoms and survival in patients with congestive heart failure secondary to congestive cardiomyopathy have been reported by European investigators.<sup>16</sup> The rationale for beta blocker therapy includes increasing energy available for intracellular reparative processes, improved diastolic relaxation, inhibition of sympathetically mediated vasoconstriction, protection against catecholamine-induced myocardial damage, and up-regulation of beta adrenergic receptors allowing restoration of catecholamine responsiveness.

Emphasis must be given to the fact that these studies used relatively low doses of metoprolol (25-50 mg po b.i.d.). Negative results have been reported for beta blockers without beta selectivity. Similar negative results were reported using acebutolol, which has beta selectivity but also intrinsic sympathomimetic activity. Therefore, at present the use of beta blockade in this group remains controversial. If attempted, extremely low doses of metoprolol are recommended with close follow-up in the first month to facilitate prompt recognition and therapy of worsening left ventricular function. If begun, treatment should be continued for at least six months as many patients will have early deterioration followed by slow but definite long-term improvement not recognized as such until after four to six months.<sup>17</sup>

### Summary

Congestive cardiomyopathy can no longer be considered a single disease. Rather, it is the end-result of a variety of disorders. Establishing a prompt, specific diagnosis using appropriate serologic tests, gallium-67 scanning and endomyocardial biopsy facilitates directed therapy in selective cases. Active investigation continues at this time to identify better oral agents with positive inotropic effect. Recognition of a subgroup likely to respond favorably rather than adversely to beta blockade therapy also continues to be under investigation.

## REFERENCES

1. Wynne J, Braunwald E: The cardio myopathies and myocarditides. In: Braunwald E., ed. Heart Disease. Philadelphia: W. B. Saunders Co., 1980; 1939-40.
2. Mason JW, Billingham ME, Ricci DR: Treatment of acute inflammatory myocarditis assisted by endomyocardial biopsy. Am J Cardiol, 1980; 45:1037-44.
3. Dec GW, Palacios IF, Fallon JT, Aretz HT, Mills J, Lee D, Johnston RA: Active myocarditis in the spectrum of acute dilated cardiomyopathies. N Engl J Med, 1985; 312:885-90.
4. Fenoglio JJ Jr, Ursell PC, Kellogg CF, Drusin RE, Weiss MB: Diagnosis and classification of myocarditis by endomyocardial biopsy. N Engl J Med, 1983; 308:12-8.
5. O'Connell JB, Robinson JA, Henkin RE, Gunnar RM: Immunosuppressive therapy in patients with congestive cardiomyopathy and myocardial uptake of gallium 67. Circulation, 1981; 64:780-6.
6. Zee-Cheng CS, Tsai CC, Palmer C, Codd JE, Pennington DG, Williams GA: High incidence of myocarditis by endomyocardial biopsy in patients with idiopathic congestive cardiomyopathy. JACC, 1984; 3:63-70.
7. Parrillo JE, Aretz T, Palacios I, Fallon JT, Block PC: The results of transvenous endomyocardial biopsy can frequently be used to diagnose myocardial diseases in patients with idiopathic heart failure. Circulation, 1984; 69:93-101.
8. O'Connell JB, Henkin RE, Robinson JA, Subramanian R, Scanlon PJ, Gunnar RM: Gallium-67 imaging in patients with dilated cardiomyopathy and biopsy proven myocarditis. Circulation, 1984; 70:58-62.
9. Shah PJ, Shreeve WW: Uptake of GA 67 in the cardiac region in hyper sensitivity angitis. Clin Nucl Med, 1981; 4:547-8.
10. O'Connell, Subramanian R, Robinson JA, Scanlon PJ: Endomyocardial biopsy: Techniques and applications in heart disease of unknown cause. Heart Trans, 1984; 3:132-144.
11. Strain JE, Fine EJ, Grose RM, Kramer DC, Chio S, Factor SM: Comparison of myocardia biopsy and gallium-67 imaging for diagnosing myocarditis. Circulation, 1983; 68:3:III 208. (abstract).
12. Figulla HR, Gunther R, Nieger M, Luig H, Kreuzer H: Spontaneous hemodynamic improvement or stabilization and associated biopsy findings in patients with congestive cardiomyopathy. Circulation, 1985; 71:1095-1104.
13. Mulrow CD, Feussner JR, Velez R: Reevaluation of digitalis efficacy. Ann Int Med, 1984; 101:113-17.
14. Moenning, SP: Digitalis toxicity: A review of the literature. Indiana Medicine, 1984;874-6.
15. Packer, M: Vasodilator and inotropic therapy for severe chronic heart failure: Passion and skepticism. JACC, 1983; 2:841-52.
16. Alderman J, Grossman W: Are B adrenergic-blocking drugs useful in the treatment of dilated cardiomyopathy? Circulation, 1985; 71:854-7.
17. Waagstein F, Hjalmarson A, Swedberg K, Wallentin I: Beta blockers in dilated cardiomyopathies: They work. Eur Heart J, 1983;4(Supp A):173.

# Look-Alike and Sound-Alike Drug Names

**BENJAMIN TEPLITSKY, R. PHIL.**  
Brooklyn, N.Y.

Look-alike and sound-alike drug names can be misinterpreted by a nurse reading doctors' orders or by a pharmacist compounding physicians' prescriptions. Such misunderstandings can result in the administration of a drug not intended by the prescriber. Awareness of such look-alike and sound-alike drug names can reduce potential errors.

*Category:*  
*Brand Name:*

*Generic Name:*  
*Dosage Forms:*

*Category:*  
*Brand Name:*  
*Generic Form:*  
*Dosage Forms:*

**CEFOTAXIME**  
Cephalosporin  
Claforan, Hoechst-Roussel  
Cefotaxime sodium  
Powder for Injection

**ONCOVIN**  
Mitotic inhibitor  
Oncovin, Lilly  
Vincristine Sulfate  
Injection

**CEFTIZOXIME**  
Cephalosporin  
Cefizox, SKF  
Ceftizoxime sodium  
Powder for Injection

**ANCOBON**  
Antifungal  
Ancobon, Roche  
Flucytosine  
Capsules

# Malignant Otitis Externa

---

MICHAEL E. PAUSZEK, M.D.  
Franklin

---

**A**N 89 YEAR OLD DIABETIC woman was hospitalized on 12/28/84 to treat an intractable, painful right external otitis and dehydration.

She had complained of right ear pain of two weeks duration when seen as an outpatient on 12/17/84. On exam at that time, the right external canal contained purulent material. No edema or surrounding erythema were noted. Treatment was begun with Polymixin B-Neomycin-Hydrocortisone Otic Solution. No improvement was noted and she returned on 12/28/84 and was admitted for therapy. The right ear pain precluded the wearing of her hearing aid.

Her multiple health problems on admission included a 30-year history of diabetes mellitus with peripheral neuropathy, retinopathy and cataract formation, left ventricular dysfunction, deafness treated with bilateral amplification and a seven-year history of intractable abdominal pain and diarrhea of unknown etiology. The patient had recently been hospitalized (11/27 12/5/85) for treatment of acute pulmonary edema. Her medical regimen on 12/28/84 consisted of a 1500 calorie ADA low salt diet, Furosemide 160mg twice daily, Timolol Maleate Ophthalmic Solution, Propoxyphene with Acetaminophen and the otic solution.

The author, an Assistant Clinical Professor of Medicine, Indiana University School of Medicine, is in private practice with the Johnson County Internal Medicine Associates, 1101 W. Jefferson St., Suite E, Franklin, Ind. 46131.

Physical exam on admission revealed a debilitated, deaf, blind, elderly, white woman. Blood pressure was 100/60mm mercury, pulse was 48. Purulent material was draining from the right external ear canal, which was narrow due to edema. Right periauricular erythema, edema and tenderness were present. The left ear canal was normal. Oral mucosa was dry. Dense cataracts precluded funduscopic exam. Cranial nerves three through seven and nine through twelve were intact. No peripheral edema was present.

Laboratory data on admission included a white count of 22,400 with a left shift, hemoglobin 12.3 grams, BUN of 112, creatinine 1.2mg% and a glucose of 388. The BUN and creatinine had been 17 and 0.7, respectively, on 11/27/84. Chest x-ray revealed cardiomegaly.

## Hospital Course

The patient was treated with intravenous hydration and wound precautions were instituted. She remained afebrile. Blood cultures and an ear culture were obtained. The otic solution was continued. On 12/31/84, the right external canal could be adequately visualized to delineate a ring of granulation tissue at the external bony meatus. The diagnosis of malignant otitis externa was then entertained and therapy with Amikacin and Ticarcillin was instituted. Blood cultures remained negative. The ear culture grew *Pseudomonas aeruginosa*, *Staphylococcus aureus* and a second unidentified *Staphylococcus* species.

The patient was seen on 1/3/85 in consultation by an otolaryngologist who agreed with the diagnosis. The cultured organisms were all sensitive to Cefoperazone and this was substituted for the Amikacin and Ticarcillin on 1/6/85. Mastoid x-rays

were normal. The erythema, edema, drainage, granulation tissue and pain all gradually resolved. Parenteral antibiotic therapy was continued a total of 28 days. No surgical debridement was necessary. No cranial nerve deficits developed. Prior to completion of therapy, the patient's BUN and creatinine decreased to 49 and 1.0mg%. On 1/29/85, at the completion of four weeks of therapy, the patient was released back to her daughter's home with home healthcare support.

When last seen on 2/14/85 as an outpatient, she remained debilitated. The ear pain had not recurred. The external canal was unremarkable. She was able to wear her right hearing aid. The patient was referred back to her family physician and the home healthcare agency for continued care. She died suddenly at home in late February 1985.

## Discussion

Malignant otitis externa, named by Chandler in 1963 and referred to as necrotizing or invasive otitis externa, is a rare and severe form of external otitis. It is characterized by local invasion of the bone, cartilage and soft tissue. The infectious agent is *Pseudomonas aeruginosa*. The clinical manifestations, complications and mortality were first detailed by Chandler in 13 patients reported in 1968.<sup>1</sup> The typical patient is elderly and diabetic. The use of an in-ear amplification device appears to be an additional predisposing factor. The patients uniformly complained of severe ear pain. On exam, the canal contains a purulent discharge. The presence of granulation tissue at the junction of the cartilaginous and bony external meatus is highly suggestive of the diagnosis and may be present in 80% of patients.<sup>2</sup> *Pseudomonas aeruginosa* can usually



be cultured from the involved ear. Unfortunately, it is also common in simple otitis externa and therefore not diagnostic.<sup>3</sup> There are usually no systemic manifestations. The infection does not respond to local or topical therapy. Cranial nerve involvement, especially the facial nerve, and meningitis can complicate the local spread of the infection. A mortality of 58% is reported in combined series.<sup>2</sup> Frequently, the symptoms are present for months before the diagnosis is entertained and appropriate therapy instituted.

Malignant otitis externa is similar pathologically to osteomyelitis.<sup>4</sup> The infection spreads via the submucosa of the temporal bone's pneumatic spaces. This submucosal involvement leads to bony destruction and fibrosis. There appears to be a correlation between the duration of symptoms and the degree of bony change. Mendez classified the bony involvement into early and late dependent upon the presence of roentgenographic bony destruction.<sup>5</sup> In his series, cranial nerve involvement was associated with the late phase. Antipseudomonas therapy must always be prolonged with surgical debridement when radiographically evident bony

change is present. In the case presented, the diagnosis was considered and therapy instituted within one month of onset. On plain films of the mastoid area the bony structure appeared intact. The patient's disease was therefore considered early, and she was successfully treated with a four-week course of parenteral antibiotic therapy.

Though the patient responded well, within one month of completing therapy, she died as a result of her underlying disease. In the original series described by Chandler, six of 13 patients died (five of myocardial infarction, one of cerebrovascular accident) during or after completing therapy.<sup>1</sup> Other investigators report similar experience. Though the disease is treatable, as in many acute illnesses in debilitated patients, prognosis is dependent upon reversibility of pre-existent disease.

#### Summary

An elderly debilitated, diabetic patient with malignant otitis externa was presented. On examination, a ring of granulation tissue at the cartilaginous-bony canal junction suggests the diagnosis. Culture of the ear confirmed

the presence of *Pseudomonas aeruginosa*. The patient was successfully treated with four weeks of parenteral antibiotic. Malignant otitis externa should be considered when external otitis is encountered in an elderly diabetic patient, especially if the otitis fails to respond to local therapy or rapidly recurs with a short course of treatment. If therapy is delayed, complications include facial nerve paralysis and meningitis. Prolonged parenteral antibiotic therapy (four to six weeks) with surgical debridement, if necessary, is required. Prognosis remains poor for the affected population as a result of pre-existent disease.

#### REFERENCES

1. Chandler JR: Malignant external otitis. *Laryngoscope*, 78:1257-94, 1968.
2. Evans ITG, Richards SH: Malignant (necrotizing) otitis externa. *J Laryngol Otol*, 87:13-20, 1973.
3. Singer DE, et al: Otitis Externa. *Ann Otol Rhinol Laryngol*, 61:317-330, 1952.
4. Kohut RI, Lindsay JR: Necrotizing ("malignant") external otitis histopathologic processes. *Ann Otol*, 88:714-720, 1979.
5. Mendez G Jr, et al: Malignant external otitis: A radiographic clinical correlation. *Am J Radiol*, 132:956-961, 1979.

## INDIANA MEDICAL BUREAU

1010 East 86th St.—72 Winterton

Indianapolis 46240

844-7933

A Licensed Employment Agency  
Specializing in Medical Personnel

Since 1952

# PROFESSIONAL LIABILITY INSURANCE COMPANY



In ten years your malpractice carrier may be just a memory.

Unless it's Medical Protective.

As you consider professional liability insurance, consider this. The coverages stated in the policy are basically a promise — a promise to be here when needed regardless of legal climate or economic conditions. A company's ability to keep this promise is critical because your financial security may depend on it. Unfortunately, too many firms are now finding the task impossible.

Analyze your liability insurance options carefully just as you would any important investment. Go beyond the agent and the policy to the company that

stands behind both. How long has it been in operation? Has it weathered some of the tough times? Will it be there for you when you need help?

The Medical Protective Company pioneered professional liability coverage before the turn of the century and has served doctors exclusively ever since. Over 500,000 of them. Through good times and bad. We'll be here when you need us.

Contact The Medical Protective Company through one of our general agents. History shows we keep our promises.

**THE  
MEDICAL PROTECTIVE COMPANY**

**FORT WAYNE, INDIANA**

Agents: Hoover, John J. Lindenschmidt, H. Jere Frey  
2402 E. 6100 North Keystone Avenue, P.O. Box 20576  
Indianapolis, IN 46220, (317) 255-6525

Robert B. Newell  
Suite 265, 2260 Lake Avenue  
Fort Wayne, IN 46805, (219) 422-4783



# Motrin<sup>®</sup> 800 TABLETS mg ibuprofen



**Extra strength  
Convenience  
Economy**

**Upjohn**



A Century  
of Caring  
1886-1986



Before prescribing, see complete prescribing information in SK&F CO. literature or *PDR*. The following is a brief summary.

**\* WARNING**

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

**Contraindications:** Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

**Warnings:** Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum  $K^+$  levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict  $K^+$  intake. Associated widened QRS complex or arrhythmia requires prompt additional therapy. Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

**Precautions:** The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of Dyrenum (triamterene, SK&F CO.) and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

**Adverse Reactions:** Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

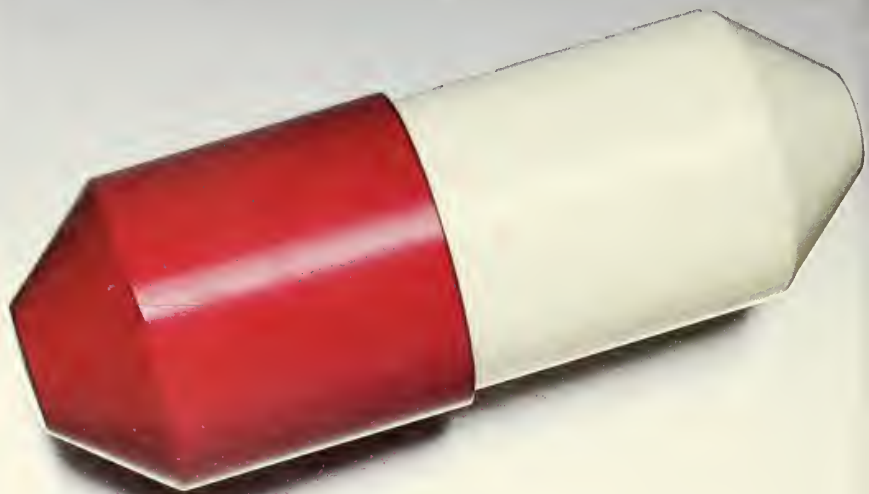
**Supplied:** 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

BRS-DZ-L39

# In Hypertension\*... When You Need to Conserve $K^+$

## Remember the Unique Red and White Capsule: Your Assurance of SK&F Quality

Serum  $K^+$  and BUN should be checked periodically (see Warnings and Precautions)



Potassium-Sparing

**DYAZIDE®**

25 mg Hydrochlorothiazide/50 mg Triamterene/SKF

Over 19 Years of Confidence

a product of  
**SK&F CO.**

Carolina, P.R. 00630

The unique  
red and white  
Dyazide® capsule:  
Your assurance of  
SK&F quality.



# Clinico-Pathologic Conference

## 42-Year-Old Man with Fever and Pulmonary Infiltrates

---

Edited by  
RICHARD J. KOVACS, M.D.  
Indianapolis

---

### Grand Rounds— Indiana University School of Medicine

Dr. Kovacs is Chief Resident in Medicine, Indiana University Hospital W-587, 926 W. Michigan St., Indianapolis, Ind. 46223.

This is an edited transcript of the clinico-pathologic conference conducted Sept. 25, 1985, during a Grand Rounds session of the Dept. of Medicine, Indiana University School of Medicine.

#### Discussants:

Veena Antony, M.D., Dept. of Medicine;  
Vernon Vix, M.D., Dept. of Radiology;  
Peter Scott, M.D., Dept. of Pediatrics.

A 42-YEAR OLD MAN was admitted to the University Hospital with fever, myalgias and a left upper lobe infiltrate. Five days prior to admission, the patient developed a cough productive of small amounts of a light green sputum and had fever to 100° orally. He denied hemoptysis or producing rusty colored sputum. The fever persisted at around 100° orally despite treatment with Tylenol and antihistamines.

Two days prior to admission he began to experience left-sided pleuritic chest pain and the cough continued. He denied significant shortness of breath. There were no known exposures to tuberculosis or bird droppings. He had no recent travel history. Eight months previously he had been admitted to the University Hospital with a similar course of fever, infiltrate and left pleuritic chest pain following a 36-hour history of upper abdominal pain, nausea and malaise.

The upper abdominal pain represented what was felt to be his fifth attack of pancreatitis which had begun three years earlier. Each episode of abdominal pain lasted approximately 72 hours and gradually resolved with treatment consisting of oral fluids and Bentyl. His pancreatic problem had been evaluated previously with oral cholecystography, an abdominal ultrasound and an abdominal CT scan, all of which were normal.

Endoscopic Retrograde Cholangiopancreatography (ERCP) showed an inflamed papilla, a normal pancreatic duct, and early acinarization was seen. Drainage of contrast was delayed beyond 10 minutes, but complete by 15 minutes. Common bile duct and cystic

duct were normal. The esophagus, stomach and duodenum were normal. Triglycerides and calcium had all been normal in the past. The patient did not drink alcohol.

At the time of his first hospitalization, physical exam revealed him to be a well developed, white male who appeared lethargic but was not in acute distress. Examination of the head, eyes, ears, nose and throat was normal. Chest exam revealed dullness and decreased breath sounds over the left chest posteriorly. Examination of the heart was normal. Examination of the abdomen was remarkable for mild tenderness in the epigastrium. Bowel sounds were present and there was no hepatosplenomegaly. Rectal exam was normal and the stool was heme-negative. Neurologic exam likewise was normal.

Laboratory exam showed a hemoglobin of 13.8, an hematocrit 39.6, a white count of 12,600 with a differential of 76 polys, 4 bands and 20 lymphocytes. Serum electrolytes were normal, serum amylase at the time of admission was 69, alkaline phosphatase of 100, SGOT 22. His electrocardiogram was normal. PA and lateral chest x-ray revealed an infiltrate in the posterior segment of the left upper lobe and a small amount of left pleural fluid. Plain films of the abdomen were normal. Arterial blood gas revealed a PO<sub>2</sub> of 74, PCO<sub>2</sub> 38 with a normal pH.

A ventilation perfusion scan was performed on the first hospital day and showed a ventilation perfusion mismatch in the right upper lobe posteriorly and a matched ventilation perfusion defect in the left upper lobe, which was consistent with the area of



pneumonia seen on the chest x-ray. The VQ scan was interpreted as being of high probability for pulmonary embolus. A radionuclide venogram of the lower extremities was normal.

The patient was started on heparin, and pulmonary arteriography was performed the following day. The pulmonary arteriogram was normal and heparin was discontinued. Culture of urine yielded no growth. A culture of sputum grew *Staphylococcus aureus*. PPD skin test was negative, with a positive mumps control. The patient was started on Erythromycin, his symptoms improved, and he was discharged home.

He had no further problems until the time of the current admission when he developed his symptoms of low grade fever and cough. At the time of admission, the patient was taking Bentyl and proanthine on a prn basis for stomach discomfort. He had no known allergies. His past medical history included an episode of pneumonia at age 12 as well as some history of sinusitis in the past. The family history revealed his parents to be alive and well. Two sisters and four brothers were alive and well. Two sisters had died in infancy for unknown reasons. Two adopted daughters at home were alive and well.

The patient did not smoke cigarettes and, as mentioned previously, did not use alcohol. His review of systems was otherwise unremarkable. His weight had been stable and his appetite good. Physical exam revealed a pleasant individual in no acute distress who was well developed and well nourished. Blood pressure was 120/75 without orthostasis, the pulse was 80, respirations were 12, and he was afebrile. Physical exam revealed the head, eyes, ears, nose, and throat to be normal. There was no cervical adenopathy. Examination of the chest revealed decreased breath sounds in the left upper posterior lung field. No dullness was noted and the rest of the lung exam was unremarkable. Cardiovascular exam revealed a regular rate and rhythm without murmurs or gallops.

The abdomen was soft and non-tender. There were no masses or organomegaly. Rectal exam was normal as was the genitourinary exam. Neurological exam was normal. Extremities showed no clubbing, cyanosis or edema.

Laboratory exam showed a hemoglobin of 14.5 with an hematocrit of 41.3, the white count was 10,300 with 5 bands, 57 polys, 26 lymphs, 10 monos, 1 basophil and 1 eosinophil. The platelet count was adequate. Fibrin split products were less than 10. The prothrombin time was 12 seconds. The partial thromboplastin time was 27.5 seconds. Serum sodium was 141. Potassium 3.9, chloride 97 and the  $\text{CO}_2$  was 29. The BUN was 14 with a creatinine of 1.1. Serum amylase was 26, calcium 9.3, phosphorous 4.2. Alkaline phosphatase was 90, SGOT 33, the bilirubin .3. The total protein was 7.4 with an albumin of 4.0 and a globulin of 3.4. Serum cholesterol was 170. Uric acid was 6.2.

Chest x-ray showed a left upper lobe infiltrate and no other abnormalities. The electrocardiogram was normal. A ventilation perfusion scan was performed and demonstrated matched defect in the left upper lobe and an unmatched defect in the right upper lobe. The scan when compared to the study eight months prior was unchanged and was read as indeterminate. A lower extremity venogram was normal.

Pulmonary arteriography was performed and showed normal pulmonary arterial pressures. No emboli were noted, although there was decreased perfusion of the left upper lobe apical posterior segment which corresponded to the area of infiltrate. Pulmonary function tests showed a forced vital capacity of 5.17 liters or 110% of predicted. The FEV 1 was 4.21 liters, FEV 1 to FVC ratio was 81%. Forced expiratory flow rate was 4.45 liters per second with a predicted of 3.86 liters per second. Peak respiratory flow was 13 liters per second with a predicted of 8.96. The functional residual capacity was 4.09 liters with a predicted of 1.62. Total lung capacity was 7.97 liters

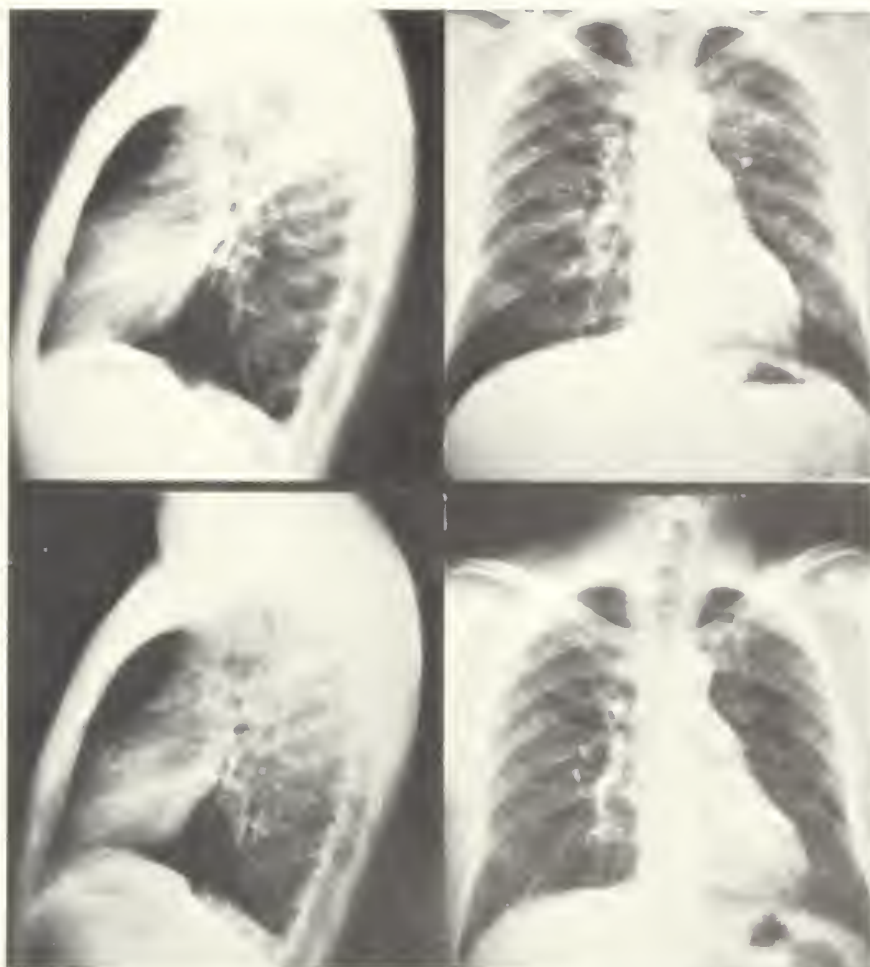
with a predicted of 6.52. Airway resistance was 1.19 cm of water per liter per second. Diffusion capacity was normal. The conclusions of the pulmonary functions tests were that they were all within normal limits.

Films of the paranasal sinuses showed the right maxillary antrum to be hypoplastic relative to the left. The sinuses were well aereated and there was no evidence of sinusitis seen. On the third hospital day a fiberoptic bronchoscopy was performed which revealed a purulent bronchitis in the upper lobes bilaterally. Bronchial brushings and washings obtained from the bronchoscopy revealed no atypical cells on cytology. Culture of sputum grew *Staphylococcus aureus*. A sucrose lysis test was negative. Quantitative immunoglobulin levels showed an IgG of 1450 mg/%. (Normals 850 to 1450), IgA 200 (normals 140 to 260), IgM 80 (normal 70-125). Serum protein electrophoresis showed a normal pattern. Fungal gel diffusions were negative for histoplasmosis, aspergillosis, coccidiomycosis and blastomycosis. Mycoplasma complement fixation titer was less than 1:8. Histoplasmosis complement fixation titers, both for yeast and mycelial phases, were also less than 1:8. Legionella IgG immunofluorescent antibody titer was 1:64 and a Legionella IgM immunofluorescent antibody titer was less than 1:32. A diagnostic test was performed.

**Dr. V. Antony:** I'd like to start by highlighting the points of history relevant to the discussion later on. This patient is a 42-year-old Caucasian man; his age, sex, and race are all relevant to diseases which may be transmitted genetically. He presents with a second episode of left upper lobe staphylococcal pneumonia. *Staph aureus* does not usually produce pneumonia in patients who are not immunocompromised, either locally in the lung or systemically.

The patient also has a history of recurrent pancreatitis. This implies that possibly the patient has a systemic





**FIGURE 1:** PA and lateral chest x-rays from the first admission (top panels) and the second admission (bottom panels). On both occasions consolidation is present in the posterior segment of the left upper lobe. The chest x-ray three weeks after the first admission had returned to normal.

disorder as opposed to a local pulmonary disorder. In the past history, the patient has had an episode of pneumonia at age 12 and also gives a history of sinusitis. His problem may involve the entire respiratory tract, including sinuses, as well as the lower respiratory tract.

Interesting information is available in the family history of this patient. The two sisters who died in infancy of unknown causes lead us to suspect that a genetically transmitted disease may exist in his blood line. The patient also has a history of infertility, leading us

to suspect that a systemic disorder of some sort involves systems other than the pulmonary system.

Physical examination is normal except that he had findings compatible with left upper lobe pneumonia. All episodes of pneumonia were predominantly in the left upper lobe. This may point to a cause for pneumonia, and that will be addressed subsequently. The outpatient work-up of pancreatitis and abdominal pain included ERCP that was essentially normal. Other tests including oral cholecystography, abdominal CT, and abdominal ultra-

sound were normal.

The hospital course during his first admission revealed mild hypoxemia, but pulmonary emboli were ruled out and he was treated for staph aureus infection with resolution of his symptoms. During the second admission, eight months later, the occurrence of pulmonary embolus was again considered but ruled out by venogram and pulmonary arteriography. Pulmonary function tests do show increased static lung volumes in spite of a normal FEV<sub>1</sub>/FVC, indicating that this patient may have had small airway dysfunction. During his second admission, cultures taken from fiberoptic bronchoscopy grew *Staphylococcus aureus*. Several tests were performed to determine the presence of immunodeficiency or atypical pulmonary infections, but these were unremarkable and a diagnostic test was performed. May we see the x-rays?

**Dr. Vix:** This is a baseline chest x-ray on this patient similar to some we've had over a period of several years. It is completely normal. At the time of his first admission to the hospital an area of infiltration had occurred seven days after the normal chest x-ray. The lateral x-ray shows infiltrate in the posterior segment of the left upper lobe (*Figure 1*). Three weeks later his chest x-ray had returned to completely normal. Eight months later he presented with pulmonary symptoms at which time he again had an infiltrate in the same area as before, verified on the lateral view as involving the posterior segment of the left upper lobe.

Perfusion scanning with microaggregated albumin shows that the area of his infiltrate does not fill either on ventilation or on perfusion. Other areas show a scattered decrease in perfusion, with a prominent defect in the right upper lobe. An equilibrium scan with xenon shows abnormal ventilation in the area of infiltrate. There is some spottiness in the ventilation pattern, with hold-up of contrast material in

some areas.

The scan was interpreted as being of high probability for pulmonary emboli and subsequently pulmonary arteriography was done. Angiograms were done bilaterally and no emboli were found. This whole series of events was repeated eight months later when the patient presented with a second pulmonary infiltrate, and again no pulmonary emboli could be demonstrated. There is mention made of sinusitis in the past. Several x-rays of the paranasal sinuses over the years show only hypoplasia of the right maxillary antrum, but otherwise the sinus x-rays have always been normal.

As part of the work up for his recurrent pancreatitis, he had a series of studies that included normal upper GI series and small bowel follow through. A CT scan done during an episode of abdominal pain was completely normal. That does not exclude pancreatitis, but it does indicate that this is probably a mild form of pancreatitis. Other studies that he had directed at finding a cause for his recurrent pancreatitis were an ultrasound study of his gallbladder, which is normal, and an oral cholecystogram, which was normal. The ERCP shows a normal common duct, common hepatic duct, and cystic duct. The gallbladder filled incompletely, but we know from other studies that it is of normal size.

The pancreatic duct is normal. A close-up of the pancreas shows early acinarization, but staining of the parenchyma is related to the pressure of the injectate and does not necessarily imply pathology. There are mild changes seen in the small ducts showing some clubbing and irregularity that would be compatible with past parenchymal damage and related probably to his bouts of pancreatitis. The degree of damage is mild.

Dr. Antony: Basically, we have a 42-year-old man with recurrent pneumonia. The differential diagnosis of recurrent pneumonia in adults is extensive. Primary pulmonary diseases

presenting in this fashion include bronchial adenoma, bronchiectasis, carcinomas, and others. Cardiac causes include congestive heart failure, and valvular heart disease. Gastrointestinal causes include esophageal diverticuli, esophageal strictures, impaired motility, and malabsorption. Metabolic disorders such as diabetes mellitus may impair neutrophil function. Hematologic problems producing neutropenia or sickle cell anemia may predispose. Neurologic causes include epilepsy or an impaired gag reflex, which may predispose to aspiration.

Other miscellaneous conditions include drug abuse, alcoholism and immune deficiency states. A wide variety of immunological problems may contribute to recurrent pneumonias. B-cell deficiency syndromes include common variable acquired hypogammaglobulinemia, congenital x-linked hypogammaglobulinemia, transient hypogammaglobulinemia, and IgG or IgA deficiency. All may cause the patients to have recurrent pneumonia. Complement deficiency, abnormalities of phagocyte function, and combined T and B cell deficiency can all cause the development of recurrent pneumonia.

What, then, is the differential diagnosis in this patient? One can approach the differential from two points of view. First, are there any local causes in this patient's pulmonary parenchyma that predispose to staph infections in the same area twice? The second group of causes to be considered are systemic diseases that may present with recurrent pneumonia.

One of the local causes that we should consider is obstruction of the left upper lobe bronchus. It could be obstructed with a bronchial adenoma, bronchogenic cyst, or bronchogenic carcinoma. Post obstructive pneumonitis may be caused by many types of bacteria, but is usually a mixture of bacteria such as gram negatives and anaerobes. It would be most unusual for post obstructive pneumonitis to be caused solely by staphylococcus aureus on two occasions. In addition, the pa-

tient underwent fiberoptic bronchoscopy, which ruled out any evidence of obstruction to the left upper lobe bronchus. This allows us to exclude obstruction as a cause for the pneumonia.

Recurrent aspiration should also be included in the differential diagnosis. However, the pneumonia secondary to aspiration may be patchy, and occurs in different segments, depending on the posture of the patient at the time of aspiration. The pneumonia in this patient occurred twice in the left upper lobe. The bacteriology of aspiration pneumonia usually yields oral flora, producing a mixed culture of gram negatives and anaerobes. This patient does not give a history of loss of consciousness, did not use alcohol, did not have any neurologic problems and had a normal gag reflex. The probability of recurrent aspiration is extremely low.

Systemic diseases may be associated with recurrent pneumonia. Immune deficiency states are one of the prime causes of recurrent pneumonia. Diseases affecting adults include delayed onset hypogammaglobulinemia, which presents in the second or third decade of life, often as recurrent pneumonia. However, the bacteriology includes hemophilus and pneumococci, but only occasionally Staphylococcus. Selective reduction of IgA is another possibility. IgA is found in bronchial washings and bronchial secretions from normal humans and there may be selective reduction of secretory IgA. Secretory IgA, which is the type of IgA produced in the bronchi, is reflected in the serum IgA levels. If serum levels of IgA are normal, as in this patient, one would not expect low levels of secretory IgA in the bronchi.

Severe combined immunodeficiency is another disease that is more prevalent in younger age groups, and patients usually die before the age of 30. Chronic granulomatous disease is a disease that is marked by a deficiency of NADPH oxidase enzymes, leading to a defect in bacterial killing after



phagocytosis. In this disorder the neutrophil is able to phagocytize bacteria normally but cannot kill organisms within the cell. This disease is associated with chronic dermatitis and mucocutaneous infections. Patients may develop granulomatous hepatosplenomegaly and lymphadenopathy, which were not part of our patient's presentation. I feel immunodeficiencies are unlikely causes of this patient's recurrent pneumonia.

We are left with two likely diagnoses, dyskinetic cilia syndrome, and cystic fibrosis. The dyskinetic cilia syndrome is a disease that has only recently come to be recognized. The majority of our epithelial lining cells are ciliated. There are 275-300 cilia per cell; the cilia beat at about 1,000 times per minute. Ciliary movement is unidirectional and is important for the removal of bacteria and particulate matter from the airways. Kartagener described this syndrome prior to knowledge of the mechanism. Immotile cilia syndrome is known to affect the middle ear, the respiratory tract, and the spermatozoa. Situs inversus is present in about 50% of the cases. Loss of ciliary action results in bronchiectasis and pansinusitis. These patients have immotile sperm due to abnormalities of ciliary ultrastructure.

A normal cilia in cross section contains two central tubules surrounded by nine doublets arranged in a circular fashion. The doublets are joined together by dynein arms and to the center micro tubules by radial spokes. An absent dynein arm has been noted in the ultrastructure of immotile cilia. Dynein arms cause the cilia to move in a manner similar to muscular contractions. They link with adjacent microtubules and cause the cilia to contract in a normal fashion. Absence of the arm results in a lack of effective ciliary motion. Other ciliary ultrastructural abnormalities have been reported. Abnormalities of the radial spokes have been described in a group of Polynesian patients, and abnormalities of cilia have been described in

Sephardic Jews. Several clusters of patients with different abnormalities in the ultrastructure of cilia have been described presenting in a similar way to this patient. These diseases are genetically transmitted, and are felt to be autosomal recessive in transmission, with an incidence as high as one in 20,000. Patients present in the second or third decade of life. They develop sinusitis, recurrent bronchitis, and may go on to develop bronchiectasis. Almost all patients will have otitis media in some form. These patients are infertile and have a normal sperm count, as opposed to cystic fibrosis, where azospermia is present. The diagnosis is made by examining scrapings of nasal epithelium for ciliary motility and ciliary ultrastructure. Artifacts can obscure ciliary ultrastructure and interpretation needs to be made cautiously in the face of intercurrent upper respiratory infections.

Cystic fibrosis is one of the most common lethal genetic diseases in America. It is common among Caucasians and very uncommon in Orientals. It is present in the North American population; 1 in 2,000 Caucasian live births are affected, but only 1 out of 90,000 Oriental live births. The disease is transmitted as an autosomal recessive. Two to five percent of the Caucasian population carries the gene. We must consider cystic fibrosis in any adult with recurrent pneumonia. Twenty to thirty percent of the cystic fibrosis population in Indiana consists of patients over the age of 16. The patients who present in adulthood have symptoms related to the lungs and the pancreas. The pulmonary involvement affects all ages with cystic fibrosis and is a major determinant in morbidity and mortality in these patients.

The characterization of the pulmonary disease is accomplished by history and physical exam, a chest film, and sputum culture, demonstrating to the presence of staph aureus or pseudomonas aeruginosa. Often the pseudomonas strain is a mucoid type, but the mucoid strain may be present in cases

of bronchiectasis and is not necessarily specific for cystic fibrosis. Pseudomonas eventually colonizes most adult patients with cystic fibrosis. The presence of pseudomonas in the sputum often predicts a worsened prognosis.<sup>1</sup> Most CF patients will have abnormalities of pulmonary function tests.

Sinusitis may be present, as it was by history in this patient. Pancreatic involvement affects almost all patients above the age of 10. Pancreatic insufficiency presents a fatty food intolerance, crampy abdominal pain, frequent bulky or fatty stools, and rectal prolapse. Symptoms may subside with advancing age. Not all patients have exocrine pancreatic insufficiency. In adults with mild diseases and suspected pancreatic dysfunction, a secretin test may be useful, and should have been considered in this patient. This patient did have recurrent pancreatitis, which is common in patients who retain exocrine pancreatic function. Azospermia occurs in CF due to atresia of the vas deferens, resulting in low or absent sperm counts, and allowing differentiation from the immotile cilia syndromes.

The patient today manifested recurrent pneumonias, most likely secondary to cystic fibrosis, since other causes for recurrent pneumonias were ruled out. CF would provide a unifying diagnosis for his recurrent pancreatic and pulmonary problems, as well as his history of sinusitis and azospermia. I believe the diagnostic test performed was a sweat chloride test done by pilocarpine iontophoresis.

**Dr. Antony's diagnosis:** Cystic fibrosis.

**Dr. Peter Scott:** This gentleman had a sweat chloride test on two occasions. The admission sweat chloride was 77mEq/liter; on a second occasion, it was 69mEq/l. These values are elevated, and in the setting of this case, are diagnostic of cystic fibrosis. I wanted to spend just a few minutes on



the sweat test itself because it is crucial in making the diagnosis of cystic fibrosis.

The indications for sweat testing are growing in number. Patients who have otherwise unexplained chronic pulmonary problems should probably have a sweat test performed to rule out cystic fibrosis. The patient we are discussing today illustrates that patients can live without the debilitating symptoms which I think in the past we have associated with cystic fibrosis. Recurrent pneumonia, staphylococcal pneumonia, atelectasis, bronchiolitis and hemoptysis are all presentations which should prompt testing. Gastrointestinal disorders which are associated with cystic fibrosis in infancy, including rectal prolapse and meconium ileus, always are indications for testing.

In the adult, recurrent pancreatitis without clear etiology should raise the possibility of cystic fibrosis. Rarely, cirrhosis may be the first presentation. A family history of chronic pulmonary illness in childhood, or unexplained death in infancy may be a clue to disease in an adult. In the case today, two siblings died in infancy for unknown reasons. At the time this patient's siblings died, presumably in the 1940s or 1950s, children with CF rarely lived beyond age 5. The history of familial pulmonary troubles in infancy may raise our index of suspicion and prompt testing in a symptomatic adult. In the pediatric population, excessively salty sweat is an indication for obtaining a sweat test even in an otherwise asymptomatic patient. Nasal polyps, sinusitis, hyponatremia, and heat prostration may be presenting symptoms. Heat prostration in this disorder seems to be increasing in the last 5-10 years as the sodium chloride content of standard infant formula has been reduced. Azospermia is another important way patients present.

Various methods of quantitating sweat chloride content have been used over the years. Today, there is only one method that is accepted for the

diagnosis of cystic fibrosis. That test is pilocarpine iontophoresis followed by quantitative analysis for sweat chloride, or sodium. Pilocarpine nitrate is drawn into the skin during the iontophoresis procedure by a 20 volt potential difference between two electrodes. Pilocarpine induces sweat production which is collected on preweighed gauze and the chloride content quantitatively determined. The minimum quantity of sweat necessary to insure adequate quantitation is 50 mg. More commonly, 75-100 mg is collected.

Conditions other than cystic fibrosis that have been reported to be associated with elevated concentration of sweat chloride include untreated adrenal insufficiency, glucose 6-phosphatase deficiency, hypothyroidism, hereditary nephrogenic diabetes insipidus, mucopolysaccharidosis and fucosidosis. For the most part, these conditions are uncommon, and in addition, should be readily distinguished from cystic fibrosis on clinical grounds. The most common cause of falsely elevated sweat chloride concentration is an imperfectly performed procedure.

It is important to understand the sweat test and its limitations in order to avoid the unfortunate situation of a misdiagnosis, and the undue strain that may place on a child and its parents. Increase in sweat electrolyte concentration as patients age has been reported. This has raised concern that perhaps the normal values for sweat chloride concentrations should be increased for adults. However, Dr. Pamela Davis, who has reported the largest group of adult patients with cystic fibrosis<sup>2</sup> has reported good discrimination by the sweat chloride test. All patients with cystic fibrosis had sweat chlorides of greater than 60 mEq/liter. Patients with sweat chlorides in 40-60 mEq/liter range should be retested on several occasions. If they are persistently in the borderline area, those patients should be followed very carefully for pulmonary and gastrointestinal symptoms. In Dr. Davis's population, patients

without pancreatic insufficiency have lower sweat chloride concentrations than patients who have pancreatic insufficiency. The reason for this is not known but it's an observation she made in the 75 adults that she reported.

**Dr. Kovacs:** What determines whether a patient is going to present at age 1 or at age 42? Is this incomplete penetrance of the gene?

**Dr. Scott:** At least from the pediatric perspective, I can say that that's really not known. You mentioned one theory, but we just aren't sure why some present literally in the newborn period with pulmonary disease. We do know that the lungs in cystic fibrosis are morphologically and functionally normal at the time of birth. Why patients progress over weeks to respiratory failure or why some other patients present at the age of 50 simply isn't known.

**Dr. Antony:** Not only are patients being diagnosed later in life, but, because of better overall care and better pulmonary treatment of pulmonary infections, more patients are surviving well into adulthood. Because of more accurate diagnosis and better care we are seeing more patients in our adult clinics. Although we have documented multiple defects in cystic fibrosis such as abnormal sweat, abnormal saliva, and abnormal neutrophil function, the underlying genetic defect is not known. As long as this is true, we will only be able to provide symptomatic relief and pulmonary toilet, but will not be able to make significant progress in dealing with a very important disease that increasingly affects the adult population.

#### REFERENCES

1. Fink RJ, Doershok CF, Tucker AS, Stern RC, Boat TF, Matthews LW: Pulmonary function and morbidity in 40 adult patients with cystic fibrosis. *Chest*, 74:643-647, 1978.
2. Saint'agnese PA, Davis PB: Cystic fibrosis in adults. *Am J Med*, 66:121-132, 1979.

# Anesthesia in the Dental Office

## A National Institutes of Health Consensus Report Synopsis

---

R. DALE LENTZ, D.D.S.  
Indianapolis

---

**P**AIN IS A MAJOR FACTOR that brings patients to the dental office, while fear and anxiety about pain are common reasons patients fail to seek dental care. The control of pain and anxiety is therefore an essential part of dental practice.

To accomplish this objective, various techniques are used, including psychological approaches, local anesthetics, and various types and combinations of sedative and general anesthetic agents. The use of these drugs in the dental office by appropriately trained professionals has a remarkable safety record.

The use of sedative and anesthetic techniques in the dental office represents a unique situation when compared with their use in the hospital environment. These differences often are not clearly understood. As a result, the use of sedation and anesthesia in the dental office has sometimes been unduly criticized. The National Institute of Dental Research, National Institutes of Health, and the Federal Drug Administration convened a Con-

sensus Conference on Anesthesia and Sedation in the Dental Office to review, define and answer a number of questions.

Light sedation, deep sedation, and general anesthesia were differentiated and defined. Indications and contraindications for their use in child, adult and geriatric populations were reviewed. Patient preference, health, risk/benefit ratios, and the presence of adequate facilities and trained personnel were some factors. The drugs used are essentially the same as in a hospital setting.

Risks associated with the use of general anesthesia and sedation were reviewed. Risk increases with deep sedation, general anesthesia, the elderly, the very young, the medically compromised, the duration, and the complexity of the procedure.

Recommendations for professional training requirements, number of personnel present, facility equipment, monitoring equipment, and emergency protocol were made. A list of areas for future research included epidemiology,

drug efficacy, environmental risk, and new drug evaluation.

A careful review of this paper by individuals involved in office anesthesia and sedation is recommended. It states the current standard of care for anesthesia and sedation in the dental office.

### Travelers' Diarrhea

*This is a review of NIH Consensus Development Conference Statement, Vol. 5, No. 8:*

An excellent summary of our knowledge of this distressing illness. The symptoms, multiple etiologies, and treatment of Travelers' Diarrhea is both concise and well written. Recommended highly for all clinicians encountering this difficult illness.—I.E. Michael, M.D., Indianapolis

### Health Implications of Obesity

*This is a review of NIH Consensus Development Conference Statement, Vol. 5, No. 9:*

This timely brochure is an excellent summary of the illnesses that are associated with obesity. For example, they point out that incidence of Type II diabetes is 2.9 times higher in overweight than in non-overweight persons. We all know that we have no successful method to help obese patients bring their weight to normal levels. A review of this well written brochure should certainly make us more effective in dealing with this serious problem.—I.E. Michael, M.D., Indianapolis

---

### Consensus Conferences

The National Institutes of Health will conduct a Consensus Development Conference on "Prevention of Venous Thrombosis and Pulmonary Embolism" March 24 to 26 at the Masur Auditorium in Bethesda, Md.

On June 2 to 4 another Consensus Conference will be held on "The Utility of Therapeutic Plasmapheresis for Neurological Disorders."

---

This synopsis is based on an NIH consensus development conference conducted last year. The complete consensus statement is available from the Office of Medical Applications of Research, Bldg. 1, Rm. 216, National Institutes of Health, Bethesda, Md. 20205.

# Public Attitudes Toward Physicians

ADELE LASH  
Director  
Public Relations

## AMA Nationwide Survey Shows Where Some Improvements Are Needed . . .

THERE IS AN OLD saying, "Truth is what the people believe." What the people believe has become more and more important to physicians as they have seen their image erode over the past few years. The American Medical Association recently released the results of a nationwide survey on "public attitudes toward physicians." The purpose of the survey was to not only test for changes in public attitudes, but to aid state medical associations in developing local programming and activities.

In each of the 50 states, 400 randomly-selected adults were polled through telephone interviews conducted in July 1985. In all, 37 questions were asked, not including four classification questions to determine the age, education, racial or ethnic background and income of the survey participants.

Nationally, the survey indicated that some trends are reversing and that perceptions in some categories are improving (see Table 1). For example,

TABLE 1  
National Comparisons

	% Agree			
	1982	1983	1984	1985
Doctors accessible . . . . .	*	56	53	60
Fees reasonable . . . . .	42	32	27	32
People are losing faith in doctors . . . . .	62	66	68	64
Explain things well . . . . .	55	49	44	50
Too interested in money . . . . .	60	66	67	62
Growing malpractice crisis . . . . .	*	*	*	80
Doctors act better than other people . . . . .	33	35	38	42
Interested in patients . . . . .	68	62	62	74
Poor able to get care . . . . .	48	41	43	44
Discuss fees . . . . .	*	*	*	34
Up to date on medical technology . . . . .	71	72	71	73
Elderly able to get care . . . . .	52	50	45	52
Don't care . . . . .	*	*	54	56
Medical science saves many . . . . .	*	*	94	92
Doctors involved in community . . . . .	*	*	*	49
Government should provide better care . . . . .	*	*	*	78
Lawyers fees reasonable . . . . .	*	*	19	22
Important for people to have own doctor . . . . .	*	*	*	91
Doctors keep patients waiting . . . . .	*	*	*	78
Become doctors to help people . . . . .	*	*	51	65
Doctors don't include patients . . . . .	*	*	*	63
Medical care too specialized . . . . .	*	*	*	62
Become doctors for money/prestige . . . . .	*	*	66	61
Doctors spend enough time . . . . .	46	38	34	41
Too quick to prescribe drugs . . . . .	*	*	*	66
Give good nutrition advice . . . . .	*	*	*	77
Don't make more mistakes than 10 years ago . . . . .	*	*	*	52
Doctors keep health products off market . . . . .	*	*	*	36
Doctors make too much money . . . . .	*	*	*	62
Anything bother you about last visit . . . . .	*	*	*	42
Suits justified . . . . .	47	41	43	30
Limit on malpractice award . . . . .	61	62	61	56

\* Indicates that question was not asked.



60% of persons surveyed agreed that doctors are accessible in emergencies. That figure was up seven percentage points from 1984. In response to the statement, "Doctors take a genuine interest in patients," 74% of persons agreed, an increase of 12 percentage points from 1984. Physicians consistently receive high marks for their training. Seventy-three percent of persons surveyed agreed: "Doctors are usually up to date on medical technology." As the chart indicates, previous surveys on this issue have been within one or two percentage points lower than that.

Perhaps, even more interesting is the response to the poll in regard to patient liability. Nationally, the public perception that the suits are justified is down 13% since 1984. According to Larry J. Freshnock, Ph.D., director of survey and opinion research at the AMA, the number of people who responded "not sure" on the patient liability statement has doubled. While there is still less support than in the past three years for a limit on malpractice awards, Dr. Freshnock interprets the results of the survey to indicate "people can be swayed" on this issue.

What about specific responses in Indiana? In interpreting the data for the Indiana State Medical Association, the AMA has compared the 1984 national results with the Indiana responses in 1985 (see *Table 2*).

The survey results indicate areas where the public perception of physicians can be improved. While Indiana physicians receive high marks in interest in their patients, in their understanding of the latest medical advances, and in their advice to patients in such things as nutrition, dieting and exercise, there are other areas where responses are not as positive.

Fewer than half of the people polled feel doctors explain things well to their patients. Only 30% of those polled feel doctors discuss fees adequately before treatment. More than half, 55%, of the survey respondents agreed that "Doctors don't care about people as much

TABLE 2  
Comparison of National and Indiana Data

Question	% Agree	
	National '84	Indiana '85
Doctors are accessible in an emergency	53	62
Doctors fees are reasonable	27	36
People are losing faith in doctors	68	63
Doctors explain things well	44	17
Doctors are too interested in making money	67	63
A growing crisis malpractice suits and awards	*	77
Doctors act like they're better/others	38	39
Doctors take a genuine interest in patients	62	74
Poor people get needed medical care	43	48
Doctors discuss fees before treatment	*	30
Doctors are usually up to date on the latest medical advances	71	75
Elderly are able to get medical care	51	58
Doctors don't care about people as much as they used to	54	55
Medical science saves many	94	92
Physicians are involved in local activities	*	53
Government should provide better health care for the poor and elderly	*	73
Lawyers fees are usually reasonable	19	24
Important for people/own personal physician	*	92
Doctors keep patients waiting too long	*	80
People become doctors to help other people	51	71
Doctors don't include patients/treatment	*	66
Medical care is becoming too specialized	*	54
People become doctors for money/prestige	66	59
Doctors spend enough time with patients	34	41
Doctors are too quick to prescribe drugs	*	63
Doctors give good advice/nutrition/etc.	*	82
Doctors don't make more mistakes than 10 years ago	*	59
Doctors keep good health products off market	*	39
Doctors make too much money	*	66

\* Question not asked in 1984; no data available

as they used to." A resounding 80% think doctors keep patients waiting too long, and only 41% agree that doctors spend enough time with their patients.

It is important to remember two factors when interpreting the poll data. Questions are phrased not only to determine how respondents feel about their own physician, but about physicians in general. The responses to this survey appear to reinforce the consensus that people still have good feelings about their own doctor, but have less favorable opinions about doctors in general.

How should physicians respond to the Indiana survey results? Randolph Lievertz, M.D., an Indianapolis family practitioner, suggests physicians should remember four points which are important to patients: affordability, ac-

cessibility, affability and ability. Physicians need to be aware how long patients are waiting. They need to encourage their patients to ask questions during an office visit, or to call later, if necessary, to clarify information discussed during an office visit. Doctors should be willing to talk about fees.

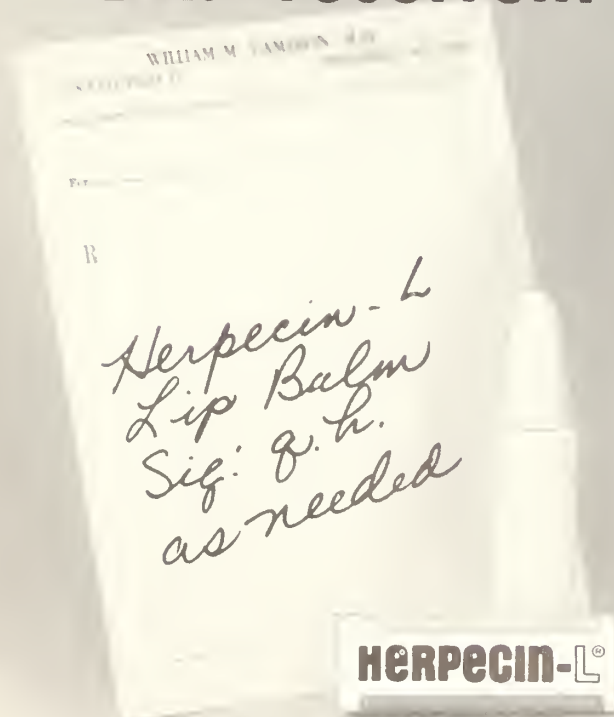
During a recent AMA Communications Workshop in Chicago, several journalists and public relations professionals had some other observations. Lou Adler, a New York radio commentator, said: "Doctors should cultivate contacts in the media and teach media to be more precise. Get out of the office and get busy projecting a 'we care' image. Take a stand on the 'people' side of issues."

In a similar vein, "Doctors need to

be pro-active, not reactive," advised Joe Feurey, who is a former reporter and now owns his own public relations firm. Doctors might do well to remember one caution from Feurey: "(The physician) image will never return to what it was, but you can keep it from getting worse."

In response to the data presented in the AMA survey, the Indiana State Medical Association's Commission on Public Relations has approved a list of activities that includes conducting a speakers' workshop for physicians and increased efforts to inform the public about the changes in health care through physician appearances on public affairs radio and television shows. (The ISMA Board of Trustees was scheduled to consider these proposals at its January 19, 1986 meeting.)

## Dx: recurrent herpes labialis



"HERPECIN-L is my **treatment of choice** for perioral herpes." GP, NY

"HERPECIN-L appears to actually **prevent** the blisters . . . used **soon enough**." DDS, MN

"HERPECIN-L® . . . a **conservative approach** with **low risk/high benefits**." MD, FL

"Used at **prodromal symptoms** . . . blisters **never formed** . . . remarkable." DH, MA

"(In clinical trials) . . . **response was dramatic**. HERPECIN-L . . . proven **far superior**." DDS, PA

"All patients claimed **shorter duration** . . . at **prodromal symptoms** . . . HERPECIN-L **averted the attacks**." MD, AK

OTC. See P.D.R. for information. For samples to make your own clinical evaluation, write: CAMPBELL LABORATORIES, INC., P.O. BOX 812-MD, FDR STATION, NEW YORK, N.Y. 10150

In Indiana HERPECIN-L is available at all *Hook, Osco, Peoples, Revco, Ribordy, SuperRx Drug Stores* and other select pharmacies.

# CME QUIZ

TO OBTAIN ONE HOUR OF CATEGORY 1 AMA CME CREDIT, answer the following questions by circling the correct answer on the answer sheet below. Complete and clip the application form and mail it to: Indiana University School of Medicine, CME Division, Fesler Hall 221, 1120 South Dr., Indianapolis 46223.

## Bronchopulmonary Dysplasia

CONTINUED FROM PAGES 143-148

1. What are the two most important factors in the development of BPD?
  - a. The amount and duration of supplemental oxygen therapy and the degree of prematurity.
  - b. The amount and duration of supplemental oxygen therapy and the degree of ventilatory support required.
  - c. Excessive parenteral fluid administration during the acute states of HMD and the degree of ventilatory support required.
  - d. Excessive parenteral fluid administration during the acute stages of HMD and the presence of interstitial air.
2. When does lung development occur?
  - a. throughout gestation
  - b. in infancy
  - c. in early childhood
  - d. all of the above
3. What are some pulmonary function abnormalities seen in infants with BPD?
  - a. decreased lung volume and abnormal gas exchange
  - b. abnormal ventilation distribution and decreased minute volume
  - c. increased airway resistance and decreased dynamic pulmonary compliance
  - d. all of the above
4. Infants with BPD tend to have some feeding difficulties but only need 120 cal/kg/day to maintain weight gain.
5. Chronic diuretic therapy with furosemide used to control the fluid balance in infants with BPD may have the following complications:
  - a. hypernatremia
  - b. metabolic acidosis
  - c. bone demineralization
  - d. all of the above
6. Diuretic therapy has been shown to reduce airway resistance and improve airway conductance.
7. Infants with BPD rarely have further major illnesses once discharged from the hospital.
8. The lung damage observed in infants with BPD involves the following:
  - a. the large and small airways
  - b. the alveoli
  - c. the vascular tissues
  - d. all of the above
9. Anticipated problems in infants with BPD include all of the following except:
  - a. systemic hypotension
  - b. cor pulmonale
  - c. reactive airway disease
  - d. developmental delays
10. Hypoxemia in infants with BPD may result from the following:
  - a. feedings
  - b. elevated temperature
  - c. rapid lowering of  $\text{FiO}_2$
  - d. all of the above

## JANUARY CME QUIZ Answers

Following are the answers to the CME quiz that appeared in the January 1986 issue: "Carcinoma of the Endometrium," by Shailaja Reddy, M.D.

1. h
2. d
3. b
4. d
5. a
6. b, c, d
7. a
8. a, c
9. a, b, c, d
10. a

### Answer sheet for Quiz: (Bronchopulmonary Dysplasia)

1. a b c d
2. a b c d
3. a b c d
4. T F
5. a b c d
6. T F
7. T F
8. a b c d
9. a b c d
10. a b c d

I wish to apply for one hour of category 1 AMA Continuing Medical Education credit through the I.U. School of Medicine. I have read the article and answered the quiz on the answer sheet above. I understand that my answer sheet will be graded confidentially, at no cost to me, and that notification of my successful completion of the quiz (80% of the questions answered correctly) will be directed to me for my application for the Physician's Recognition Award of the American Medical Association. I also understand that if I do not answer 80% of the questions correctly, I will not be advised of my score but the answers will be published in the next issue of INDIANA MEDICINE.

Name (please print or type)

Address

Identification number (found above your name on mailing label)

Signature

To be eligible for this month's quiz, send your completed, signed application before Mar. 10, 1986 to the address appearing at the top of this page.



# EDITORIALS

## New Year Resolutions on Good Health Should Apply Year Around

The American Council on Science and Health published a "Special Holiday Message" last December. By the time this extract of the Council's message can be published in *INDIANA MEDICINE* the holidays will have passed. However, the 10 pieces of good advice are applicable to every day in the year, holidays, working days, or whatever. Most of the advices are obvious and even old hat but there are enough people who scorn them to make it good medicine to include all ten or any appropriate combination of the ten in the doctor's advices to his patients.

Number 9 on the list has not had adequate public attention. The general public should become knowledgeable about AIDS. The word-for-word explanation of the Council's review of facts about AIDS covers the established facts that may be relied upon. The title of the No. 9 advice is "Observe Established Precautions To Reduce Your Risk of AIDS." It reads:

"More than 90 percent of reported AIDS cases have occurred in members of high-risk groups (homosexual and bisexual men, intravenous drug users, hemophiliacs, blood transfusion recipients, heterosexual contacts of high-risk people and children of high-risk parents). Nevertheless, avoiding AIDS has become a key concern of the entire U.S. population.

"Unfortunately, however, many people are worried about the wrong things. They may scrupulously avoid behaviors that are perfectly safe (such as casual contact with high-risk individuals) while continuing practices that are truly risky (such as heterosexual promiscuity).

"You can reduce your risk of AIDS by observing the following precautions: Avoid having anonymous sexual partners. If you do have sex with a high-risk individual or someone unknown to you, avoid exchange of body fluids (blood, semen, feces, urine) and avoid receptive anal intercourse. Condoms, diaphragms, and spermicides may offer some protection. Exercise caution

regarding procedures such as acupuncture, tattooing, and ear piercing in which needles or other unsterile instruments may be used. Such procedures are safe only if instruments are properly sterilized or disposable. Don't share toothbrushes, razors, or other implements that could become contaminated with blood with anyone who has or might have the AIDS virus.

---

For those worried about contracting AIDS, following the established precautions should offer some relief . . .

---

"On the other hand you need *not* avoid casual contact with AIDS patients, their families, or members of high-risk groups; the AIDS virus is not known to be spread in this way. You need *not* avoid donating blood; disposable needles are always used. You need *not* avoid receiving blood when medically indicated; new procedures have virtually eliminated the risk of contracting AIDS in this way. And you need *not* avoid public rest rooms."

---

## The I.U. Fall Medical Weekend: A Mixture of Sports and Medicine

The I.U. Fall Medical Weekend at Nashville has become a well established and well attended clinical seminar as well as an interval of sports such as tennis, golf and football games. Twelve annual sessions have demonstrated the popularity of a meeting designed for primary physicians and open and also instructive to the specialists.

The standard formula for the multiply oriented weekend is for golf and tennis at the Brown County Inn in Nashville on Friday morning. Friday afternoon is devoted to clinical lectures. This is followed by a reception and banquet in the evening with a special after-dinner speaker.

Saturday morning is taken over by

The other advices are listed below by title; each one is obviously of great importance; the detailed explanation for each advice which appears in the Council's Special Holiday Message is not required to validate the wisdom of the admonitions.

1. Don't Smoke.
2. Don't Mix Drinking with Driving.
3. Avoid Obesity, But Avoid Diet Fads Too.
4. Exercise Regularly But Exercise Caution.
5. If You Drink Alcohol Do It in Moderation.
6. Have Your Blood Pressure and Blood Cholesterol Checked.
7. Use Seat Belts, *Every* Time.
8. Make Sure There's a Working Smoke Detector in Your Home.
10. Focus Your Efforts on Things That Matter.

The Council strongly recommends adoption of these 10 rules as New Year Resolutions for better health. The list makes a good guide for a physician in counseling patients who, naturally, are seeking the comforts of good health.

---

additional medical sessions. That afternoon, to take your mind off of medicine, the crowd travels to Bloomington for the football game. Then to take your mind off football everyone gathers for a reception at the home of Dr. and Mrs. Harold Manifold.

And so, by bus to beddy-bye at the B.C. Inn and happy dreams. The Sunday program continues the clinical schedule by a faculty of visiting professors and the I.U. Medical School staff.

Watch for announcements of the 1986 edition of the medical weekend which will occur this year on October 10 to 12. Registrations and payments should be made well in advance to insure accommodations.

The weekends for 1987 and 1988 have already been set. October 23 to 25, 1987 and October 14 to 16, 1988 will see renewals of the clinical weekends for the future.

## A Look at Why Medical Costs Have Risen and What Can Be Done

Everybody talks about the high cost of medical care but not much is being done about it.

The reason not much is being done is that there is not very much that can be done at present.

The two main reasons for medical care cost rising faster than universal inflation are the immense improvement in medical care and the fact that a very large proportion of medical care is now done by socialized medicine.

The vast improvement of medical technology, pharmacology and hospital care should not be abandoned—the improvements are here to stay and should be used, although judiciously, whenever needed. The advent of prepaid medical service, while it may be somewhat impersonal and does not always arrange for each patient to have the same doctor each time, will serve to hold natural restraints on high cost.

Medicaid and Medicare are two massive chunks of socialized medicine. Their costs climb steadily. No one has ever found a way to control socialized medicine costs except by limiting access to it or by lowering the quality.

The cure for the socialized cost of medicine is to abolish it. However, one other fault of all socialized measures is that it is extremely difficult to throw out. So, at least for the present, the public is doomed to live by it and absorb the consequences.

When it is possible to eliminate Medicaid and Medicare and replace them with local medical service divided into small areas with local control, the practice of medicine will return to a satisfactory level of performance.

"The United Cancer Council" of Indianapolis studies the economic and social aspects of medical practice. Four facts are cited by the Council:

- 10% of the gross national product is spent on medical care. To this the answer is that there is no basis to determine what percentage of the national wealth should be devoted to medical service. Actually, the amount is decided upon by the public—the pa-

tients and their relatives.

- Hospital costs are jumping at 12% to 16% per annum. The public determines how much comfort items are provided by hospitals. The public also, in directly, determines the payscale for hospital workers.

- Physicians' fees are up by 6.4% per annum. Economists tell us that, on average, the physicians of the U.S. have lost purchasing power almost every year for 20 years.

## The Quest for Mediocrity

### Guest Editorial

If the *need* for health care in America is a billion dollars a day, then the log-rolling Yankee should be stimulated to produce the *needed* billion dollars a day.

If the billion dollars a day *charged* for health care in America includes 20% excess as waste, exploitation and misapplication, then leadership should direct efforts to minimize such waste. If that empirical 20% of waste is recovered by efficiency, then health care in America will receive 1.2 billion dollars a day toward health—a prime social welfare goal—a goal which allows other welfares in America to be enjoyed.

If our leadership believes that Yankee ingenuity has reached its zenith, the mediocracy and complacency will be our national hallmark. If the spark of enthusiasm of the inquisitive physician is brainwashed to a smoldering ash, progress will become an unattainable goal.

Price is the appetite of the buyer; rationing does not whet the appetite of the buyer. Education of the buyer will create the cost-effective consumer; the sophisticated shopper tempers his appetite and the price must come down.

As in the Star Spangled Banner, when you look to the stars, the direction is up. Our leadership must continue to encourage and support society in upward goals.

A small Midwestern dairy used the advertising slogan, "Our cows are not contented, they are always trying to do better."—C. Dyke Egnatz, M.D., Schererville

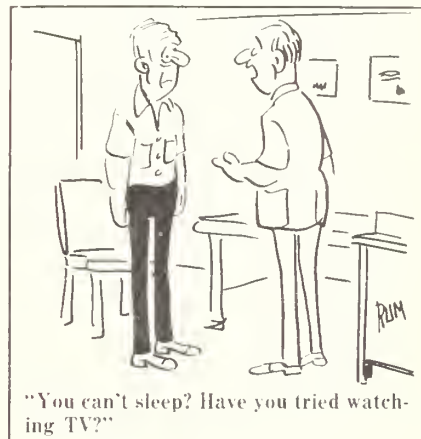
- Medicare costs are doubling every five years.

Of course they are. Dr. Jere Guin, when he practiced in Kokomo, always asked people to compare the increases in cost of Medicare with the imagined increases in cost of all food items if the national government passed a law that they would pay everyone's grocery bill.

The Cancer Control Council is conducting a public information campaign to acquaint everyone with the great advantages of increasing home health care and the use of hospices. Patients, after the absolute necessity for hospital care has ceased, get well more quickly at home and have a better time and more comforts while doing it. The Council points out that, while the utilization of home care is increasing rapidly, there are probably some six times as many patients who would thrive better if cared for at home.

Dr. Cloud, when he was president of the AMA a few years ago, calculated from government statistics that if tobacco was eliminated entirely, if everyone did not drink alcohol or drank moderately, if everyone ate correctly, maintained a normal weight and exercised regularly, and if all truck and auto drivers did so safely, the medical bill for the U.S. would be half what it is now.

This is a good news item to pass around when people are complaining too bitterly. Also, it does no harm to remind those who squawk about the cost of Medicare that the politicians were told, before the law was passed, that it was socialized and would be uncontrollable.





# EDITORIALS

## Someone Is Doing Something About Scientific Education

One reason for unemployment is the shortage of prospective workers who are trained in scientific matters. Indiana and the rest of the United States is short of engineers, computer scientists, genetic manipulators, advanced mathematicians and, to mention the root of the problem, teachers of science.

This is not a new problem. It has accumulated gradually, not so much due to the lack of students interested in science as to the increased need for scientific knowledge in a myriad of new processes and procedures developed gradually and now at a rapid rate in recent years.

As science has become more and more scientific and complicated, it was evident to researchers that students tended to avoid optional science studies. The remedy for this was to promote scientific education and to institute programs to educate students in the practicality, personal interest and advantages of a scientific education.

In 1965 The Indiana Science Education Fund was incorporated as an Indiana not-for-profit corporation.

The Fund has originated and sup

## Perverse Physicians?

### *Letter to the Editor*

A recent bulletin from IPRO contains a comment regarding Digital Rectal Examination that aptly illustrates the perversity of physicians assuming roles of bureaucrats.

IPRO has now "condescended" to allow a clinician to forego a rectal examination on his patient when the rectum "is absent due to previous surgical procedure of closing the rectum." But we must never be so logical to presume that we are excused from documenting fundoscopic examinations on prosthetic eyes or reporting knee and ankle jerks on AK amputated lower extremities.

To coin a phrase of our legal brethren, "Res ipsa loquitur." Rule on, great leaders of IPRO!—Lloyd L. Hill, M.D., Peru

ported many activities to the encouragement of students to study and become proficient in science. The Fund provides the principal support for the attendance of 24 outstanding Indiana science students, their sponsoring teachers and 12 regional fair directors at the International Science & Engineering Fair. These winners are chosen from more than 30,000 Hoosier students who enter Indiana Regional Science Fairs annually.

Each year, several outstanding science students enter an Indiana college or university with aid provided by the Fund. Scholarship winners are selected from seniors who compete in the International Science and Engineering Fair. Many other awards are offered at the regional fairs.

Teachers and students in all regions of Indiana have several opportunities each year to participate in science/mathematics workshops sponsored by

the Fund. Elementary teachers who are looking for ideas to make science more exciting and to "turn students on to science" also are motivated each year by Fund seminars.

Visual aids and other educational materials are valuable props in the science classroom. The Fund assists by producing films, video tapes, slide presentations and printed materials for teachers.

Student researchers are supported by the Fund in the cases of outstanding and/or gifted science students. Research started by students as science fair projects often has been continued in college.

The Science Education Fund and its managers and supporters are to be praised and congratulated for creating an interest in scientific knowledge and for enabling students to follow the most interesting and enjoyable pursuit of learning.

## Non-Instant Replay

### *Guest Editorial*

Many of us remember a few years ago when many of our Chronic Schizophrenics, borderline retarded, and more-seriously retarded citizens were housed, fed, clothed, and protected in our State Mental Hospitals. These institutions were less than perfect, and many of them had plenty of room for improvement, but they were Society's way of dealing with a different problem.

The Do-Gooders and Fuzzy-Thinkers claimed that these people were being deprived of their *Civil Rights*, so many of them were evicted from their havens to live on the streets as bag ladies, bag men, and "the homeless." The *Civil Rights* advocates, of course, have made it more difficult to house the next generation of the unfortunates in safe institutions, so the problem continues to compound.

Now, I see a similar problem developing. Our nation is peppered with acute care hospitals with empty beds. Our forecasters predict the bankruptcy and closing of increasing

numbers of these hospitals. The push for shorter hospital stays is pushing ever-increasing numbers of patients out of the acute-care institutions with little regard for their needs. Supposedly, they are to be sent to skilled-care nursing homes until they are ready for self-care. Most of the skilled-care facilities exist on paper, or in some far-off location. The care of a Foley catheter is about as skilled a function as many are able to master.

So we can look forward to increasing numbers of horror stories about our hospital-discharged patients suffering needlessly or dying prematurely because of their inability to care for themselves—while our hospitals suffer and die of bankruptcy.

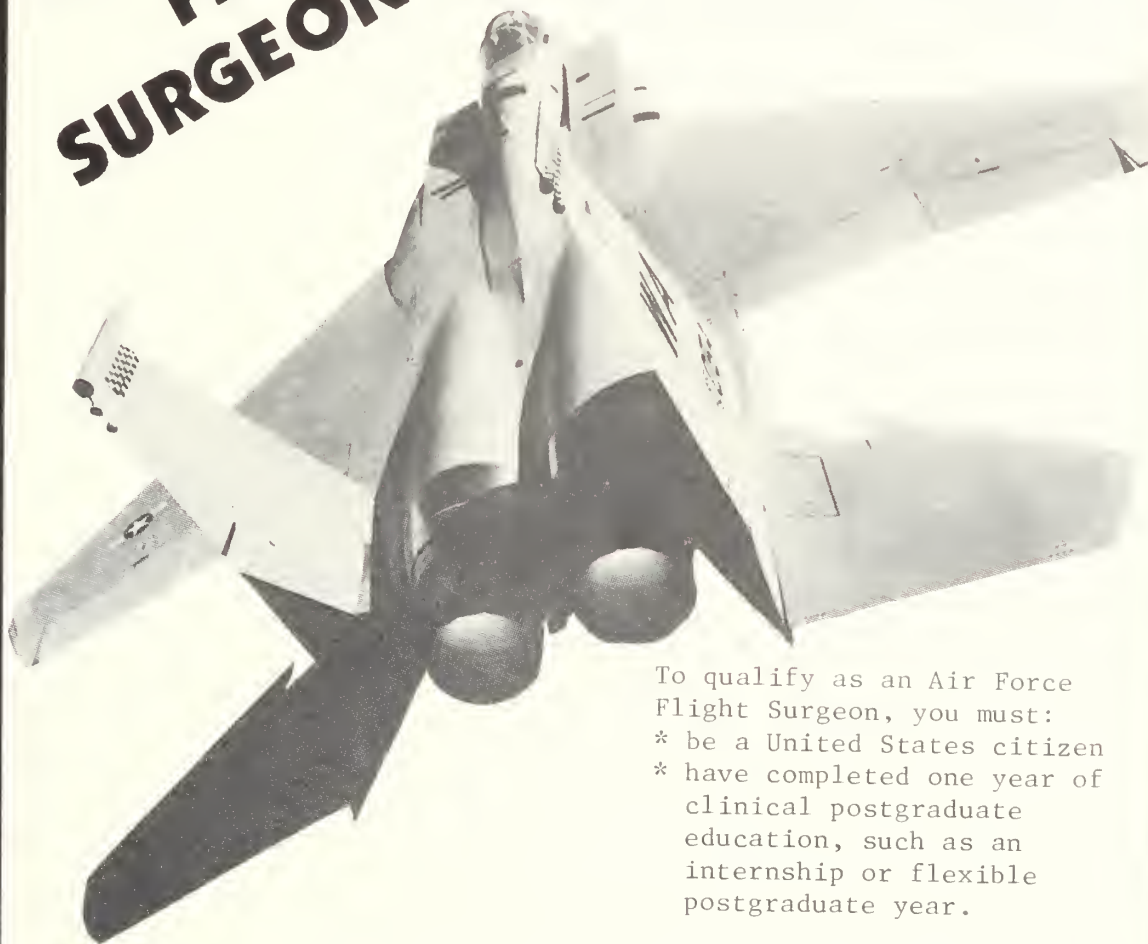
One planned, or unplanned, sequel to this madness is that the premature demise of each Medicare oldster will reduce the future financial liability of the Social Security-Medicare system. I guess that such is ever the fate of those who pin their hopes for the future on the promises of politicians, or on the expertise of do-gooders and Fuzzy Thinkers.—L. A. Arata, M.D., Shelbyville



# THE AIR FORCE FLIGHT SURGEON

As an Air Force Flight Surgeon you will have a truly general practice in your office. In the air you'll fly with and observe air crew members — adding a new perspective to your medical career.

Without the headaches of office overhead and paperwork, with 30 days of vacation with pay each year, with time for your family, with medical and dental care, low cost life insurance, and a generous non-contributory retirement program. Maybe it's about time to give your life a new perspective.



To qualify as an Air Force Flight Surgeon, you must:

- \* be a United States citizen
- \* have completed one year of clinical postgraduate education, such as an internship or flexible postgraduate year.

APPLICATIONS ARE BEING ACCEPTED NOW

Contact: Captain Scott Simpson  
47 S. Pennsylvania, Suite 2  
Indianapolis, IN 46204  
(317) 269-6164/6354  
Outside area call collect

**AIR**  
**FORCE**  
A great way of life.

# BOOK REVIEWS

## Managing Incontinence

Cheryle B. Gartley, editor. Copyright 1985, Jameson Books, Ottawa, Ill. 150 pages, hardcover, \$12.95.

It seems that the subject of urinary incontinence has been taboo in the modern media due to a sort of reverse "genital snobbism"—in other words, sex can be mentioned and exploited while the physiological functions are perversely considered obscene. I believe that something of the sort prevails in our modern society and I applaud Ms. Gartley for bringing out this book.

There are 12 chapters. The early ones are devoted to the social stigma of incontinence while the last portions of the book consider the sociology of a person who cannot control these vital functions. There is a chapter on physiology, one on devices for managing incontinence and finally a chapter on getting proper medical help.

This is written for the layman and yet I was able to glean several worthwhile ideas for managing my incontinent patients. Even the section on the many commercial adult diapers was informative. The older our population gets the greater the incidence of incontinence! Some simple advice such as leaving the catheter in the male during sexual intercourse but curving it back over the penis seems almost amusing and yet it sounds like an excellent idea so that sexual function can remain a fulfillment in spite of disability.

The idea of this book is to live well no matter what impediment is visited on a person and I agree heartily.

A worthwhile volume for all of us involved with such patients. —Rodney A. Mannion, M.D., LaPorte

Professional Press Books has published the 37th edition of *The Red Book of Ophthalmology: Who's Who in Ophthalmology*. It contains a complete register of specialists in ophthalmology in the United States, Puerto Rico and Canada, listing more than 13,500 names and addresses. 300 pages, \$50.

Professional Press Books has published *The Glossary of Optical Terminology*. It is a comprehensive lexicon listing 1100 definitions. 140 pages, in a 6"×9" hardcover format. Price is \$20.

American Health Consultants has published Volume II of *Successful Management of Ambulatory Surgery Programs*. It picks up where Vol. I, published in 1981, left off. Topics include marketing; financial, legal, and accreditation issues; management, staffing, and procedural strategies; establishing and expanding a unit; and clinical applications and safety procedures. Seven appendices. Hardbound—\$127.

Thieme-Stratton announces a book, *Therapy and Prophylaxis of Superficial Bladder Carcinomas*. The author is Prof. Herbert Klosterhalfen of the University of Hamburg, West Germany. It contains 112 pages, 53 figures, and 47 tables. Softcover, \$20.

The Society for the Right to Die has published *The Physician and the Hopelessly Ill Patient: Legal, Medical and Ethical Guidelines*. It is written by a panel of prominent physicians for the guidance of physicians, nurses, clergymen and other medical care personnel. \$5.

Thieme-Stratton announces availability of *Clinical Voice Disorders* (Second Revised Edition). The book is acknowledged as the standard teaching text for speech pathologists and for communication/speech disorders courses. 432 pages, \$30.

AVI Publishing announces the second edition of *Drug-Induced Nutritional Deficiencies* by Daphne A. Roe, M.D. The new edition covers recent findings pertaining to vitamin B<sub>12</sub>, vitamin A, vitamin D, and vitamin E. Other chapters have been completely rewritten. An entirely new chapter discusses adverse nutritional effects of cancer chemotherapeutic agents. 325 pages, \$37.50.

John Wiley & Sons announces *International Dictionary of Medicine and Biology*, the first major medical dictionary in 20 years. The three-volume set is the result of 10 years of research. It is the only resource of its kind in size, scope, currency, quality and international coverage. It will sell for \$350 before publication and \$395 after publication.

Thieme-Stratton mentions *Pocket Atlas of Rheumatology* by Dr. Dieter Wessinghage of West Germany. It is lavishly illustrated, appears in pocket size and is based on more than 20 years of experience. It is designed for rheumatologists, orthopedists, internists, radiologists and osteopaths. 230 pages, 281 figures, mostly in color. Softcover, \$18.

## HOW DOES YOUR CHILD MEASURE UP?



Two-thirds of our children can't pass a basic physical fitness test. Many show early signs of heart and circulatory problems.

Why? Most children do not get proper exercise to stay in shape.

The Presidential Physical Fitness Award Program offers a way of getting fit that's effective and FUN.

## SUPPORT YOUR CHILD

...when it comes to physical fitness. Find out if your child's school has a sound physical education program. Write:



**FITNESS**  
Dept. 35  
Washington, D.C.  
20001



## Home Care for the Dying

By Deborah Whiting Little. Copyright 1985, The Dial Press/Doubleday. 336 pages, softcover, \$9.95.

The author accepted the responsibility for caring for her terminally ill grandmother in their home. She sought competent advice and help for problems for which she was unprepared. She was pleased with the advice given except that for pain control. She depicts the enormous stresses endured by both the patient and the person providing the care. The author describes a number of situations in which home care for the dying person is not feasible. Many are neither physically nor emotionally equipped to handle problems of the terminally ill. Care must be rendered twenty four hours daily and many are unable to cope with this stress.

This timely book is beautifully written and should be read by all persons contemplating this arduous task. It contains a wealth of practical information.—I.E. Michael, M.D., Indianapolis

AVI Publishing Company has released *The Dietetic Technician: Effective Nutrition Counseling*. It was written by Virginia Aronson, R.D., M.S. It is the first textbook written for students and practitioners in the field of dietetic technology. It is coordinated with clinical and theoretical training required by the ADA for dietetic technicians. Hardbound, 430 pages, \$35.

Thieme-Stratton has *Intraocular Lenses: Fundamentals and Surgery Manual*, by Dr. Paul U. Fechner of West Germany and Dr. John J. Alpar of Amarillo, Texas. It is a practical guide which surveys and reviews the history of implanting artificial lenses. Covers indications and contraindications, and surgical procedures for implanting. Included are legal problems and patient information, as well as a listing of lens manufacturers. 512 pages, 385 illustrations, 14 tables, color. Hardcover, \$75.

Thieme-Stratton has a book called *Disorders of Hemostasis and Thrombosis* by Rodger L. Bick, M.D., Medical Director, San Joaquin Hematology/Oncology Medical Group. It presents a review of basic mechanisms of hemostasis and thrombosis. Then, each subsequent chapter relates to a specific disease. It is described as indispensable to residents in hematology and general clinicians. It contains 384 pages, 130 illustrations. Hardcover, \$49.95.

Dell Publishing announces *The Exercise Log*, the newest pocket planner from Dell. It is designed for anyone in an exercise program. The planner provides charts to monitor weight loss, body measurements and changes in endurance and strength. It is the perfect tool for setting goals and measuring achievements. Paperback, pocket-size, 128 pages, \$3.95.

The National Foundation for Ileitis & Colitis, a not-for-profit, voluntary organization, has produced a source book on inflammatory bowel disease (IBD). The book, *People . . . Not Patients*, addresses the medical and personal impact of IBD, both of which are considerable in the management of these chronic, debilitating and difficult diseases. The book defines Crohn's disease and ulcerative colitis, reviews medical facts, explains diagnostic procedures and describes various medications and their side effects. Surgical procedures and the care of an ostomy are discussed. The publication was written for patients, their relatives and acquaintances and the public. It would be good reading for physicians.—\$25.

Warner Books announces a new book by John Naisbitt entitled *The Year Ahead 1986*. Naisbitt is a trend analyst. He predicts that health care in the U.S. will be dominated by large medical corporations—many of them run for profit—and by patients caring for themselves at home. "In the year ahead, those questions will assume greater urgency as extraordinary competition moves the health care system in dual directions."

Doughleday announces *The Other Medicines* by Richard Grossman. He offers a comprehensive vision of health and medicine that explores treatments and techniques outside the orthodox Western approach. Grossman is a member of the faculty of the Residency Program in Social Medicine at Montefiore Medical Center. He discusses how such practices as Chinese medicine and acupuncture, Hindu and Yogic therapy, herbalism, massage, homeopathy, meditation, mental imagery and shiatsu offer not alternatives to traditional medicine but complementary techniques and practices that enhance health and relieve pain. \$19.95/\$10.95.

Thieme-Stratton has a *Pocket Atlas of Hematology*, written by Prof. Dr. Harald Theml of West Germany. It is a comprehensive guide that enables a large audience of specialists to master a firm knowledge of hematology. It is well illustrated. Designed for hematologists, oncologists and pediatricians. 170 pages, 102 color figures, 18 tables. Softcover, \$15.

Exeter Publishing Company has a new book entitled *Abuse of Privilege, or How to Deal with Lawyers*. It covers: how to select a lawyer; how to write a contract for a lawyer's services; how to monitor and improve a lawyer's performance; how to work with a lawyer; how and when to fire a lawyer; how and when to sue a lawyer with some chance of success. \$25.90.







## AUXILIARY REPORT

Muriel Osborne (Mrs. John)  
ISMA Auxiliary President 1985-86

Good ideas always seem to work best when the need for them is greatest. Only 3½ years ago, expectant parents residing in Wabash County could choose from only five infant or toddler safety seats at local retail stores in Wabash. Only one of the seats was designed for infants less than 9 months old.

Since there are approximately 550 to 575 births per year at the Wabash County Hospital, the need for greater resources was critical. Parents had limited choices for safe transportation and might resort to the use of infant carriers, "pumpkin seats" or no restraint at all.

Recognizing that positive and decisive action was needed, Susan Ferguson, of the Wabash County Medical Society Auxiliary, in cooperation with the Wabash County Hospital, initiated an infant car seat loan program called "Safe Start." Safe Start began on June 14, 1982, with 60 infant seats provided through the Hahn Educational Foundation and 60 matching seats contributed by the Wabash County Medical Auxiliary.

Susan, a LAMAZE instructor, brought the needed leadership to the program and has watched her efforts grow to a community service with 250



SAFE START is the name of the infant car seat loan program that Susan Ferguson started in Wabash County.—

PHOTO BY MIKE STROUP

car seats. Since June of 1982, 800 rentals have been conducted by the Safe Start Program.

As with many members of the medical community, Susan is used to responding to challenges. In 1981, she chaired the reorganization effort of the Wabash County Medical Auxiliary, which had been disbanded over 25 years ago. She is serving as chairman of the ISMA Auxiliary Program workbook and has revised the workbook into a leadership training manual.

Susan continues her commitment to child passenger safety as the 1985-86 president of the Indiana Child Passenger Safety Association (ICPSA). Of her work with the Safe Start program, she says it "has taught me that much can be accomplished if people strongly believe in the need to protect little children properly and consistently in motor vehicles." She plans to direct the ICPSA toward statewide education efforts focusing on car seat misuse and seat belt safety for older children.

Susan Ferguson is a 1966 graduate of the Methodist Hospital School of Nursing in Indianapolis. Her husband is in family practice in Wabash. They have three children, Scott, 16, Shaun, 14, and Erin, 12.—Karen Stroup and Bonnie Haughn

# ***PHYSICIANS' DIRECTORY***

## **CARDIOLOGY DIAGNOSTIC AND INTERVENTIONAL**

**WILLIAM K. NASSER, M.D.**

**MICHAEL L. SMITH, M.D.**

**DENNIS K. DICKOS, M.D.**

**CASS A. PINKERTON, M.D.**

**JOHN D. SLACK, M.D.**

**JAMES W. VAN TASSEL, M.D.**

**CHARLES M. ORR, M.D.**

**JANE HOWARD, M.D.**

CARDIOLOGY AND CARDIAC CATHETERIZATION  
ECHOCARDIOGRAPHY  
EXERCISE STRESS TESTING  
CORONARY ANGIOPLASTY  
NUCLEAR CARDIOLOGY  
PACEMAKER SURVEILLANCE  
HOLTER MONITORING

### **ST. VINCENT PROFESSIONAL BUILDING**

SUITE 400  
8402 HARCOURT ROAD  
INDIANAPOLIS, INDIANA 46260

PHYSICIAN  
REFERRAL ONLY

TELEPHONE (317) 875-9316  
(TOLL-FREE) 800-732-1482  
(TOLL-FREE) 800-CHD-PTCA  
DAY OR NIGHT

# PHYSICIANS' DIRECTORY

## COLON AND RECTAL SURGERY

W. M. KENDRICK, M.D.  
G. A. DONNALLY, M.D.  
R. JAMES WILSON, M.D.  
W. E. KELLEY, M.D.  
RICHARD L. STOUT, M.D.

Certified: International Board of Proctology

Practice limited to Colonoscopy,  
Treatment and Surgery of Rectal Diseases

Kendrick Memorial Hospital, Inc.  
Mooresville, Indiana  
Tel: 317-831-9300

(JCAH Accredited)

## PLASTIC SURGERY

AMBULATORY SURGERY FACILITY  
1944 N. Capitol Ave. Indianapolis 46202

"An office surgery facility"

HAROON M. QAZI, M.D., F.A.C.S.

Diplomate, American Board of Plastic Surgery

Phone: 317-923-4822

317-926-3466

A space this size in the Physicians' Directory costs only \$120. Even a notice this size will serve to provide referrals for the next 12 months.

## ALCOHOLISM TREATMENT



### Individualized Treatment for Alcoholism/Drugs

Men — Women — Adolescents

Michael Chadwick, M.D.  
David Gregory, M.D.  
Koala Center  
2223 Poshard Drive  
Columbus, Indiana  
(812) 376-1711

John Krueger, M.D.  
Koala Center of  
St. Joseph's Hospital  
700 Broadway  
Fort Wayne, Indiana  
(219) 425-3825

John Saalwaechter, M.D.  
Koala Center  
1711 Lafayette Avenue  
Lebanon, Indiana  
(317) 482-3711  
and  
Koala Adolescent  
1404 S. State Avenue  
Indianapolis, Indiana  
(317) 783-4084

Daniel Kubley, M.D.  
Koala Center  
1800 N. Oak Road  
Plymouth, Indiana

Indiana Toll-Free  
24-Hour HELPLINE  
1-800-622-4711

### OUTREACH OFFICES

Bloomington  
Clarksville  
Hammond  
Indianapolis  
Marion  
Richmond  
South Bend  
Muncie  
Crawfordsville



# PHYSICIANS' DIRECTORY

## CARDIOLOGY

### INDIANAPOLIS CARDIOLOGY ASSOCIATES, INC.

Robert E. Edmands, M.D.  
Samuel M. Hazlett III, M.D.

Abdel A. Zeni, M.D.  
Don B. Ziperman, M.D., F.A.C.C.

CARDIOLOGY AND CARDIAC CATHETERIZATION  
ECHOCARDIOGRAPHY  
EXERCISE STRESS TESTING  
CORONARY ANGIOPLASTY  
PACEMAKER SURVEILLANCE  
HOLTER MONITORING

1315 North Arlington Avenue  
Suite #100  
Indianapolis, Indiana 46219  
(317) 359-3501

*PHYSICIAN REFERRAL ONLY*

1500 Albany Street  
Suite #912  
Beech Grove, Indiana 46107  
(317) 786-9211

## PERIPHERAL VASCULAR SURGERY

## ALCOHOLISM TREATMENT



VASCULAR SURGERY, INC.

AUSTIN L. GARDNER, M.D., F.A.C.S.  
MALCOLM B. HERRING, M.D., F.A.C.S.  
DANIEL R. LeGRAND, M.D., F.A.C.S.  
DAVID L. MADISON, M.D.

8402 HARCOURT ROAD, SUITE 613  
INDIANAPOLIS, INDIANA 46260  
OFFICE HOURS BY APPOINTMENT  
TELEPHONE (317) 872-4129  
OR  
800-662-5367  
8 a.m.-5 p.m. only  
Monday-Friday

## Douglas Bullington, M.D.

Program Director



### COUNTERPOINT CENTER

at Valle Vista Hospital  
898 E. Main Street  
Greenwood, IN 46142  
317/887-1348

- Free evaluation and intervention
- Adult & Adolescent Treatment Services
- 24 hours-a-day

# PHYSICIANS' DIRECTORY

## INTERNAL MEDICINE

### NEPHROLOGY & INTERNAL MEDICINE, INC.

Thomas Wm. Alley, M.D., FACP      Theodore F. Hegeman, M.D.  
George W. Applegate, M.D.      Douglas F. Johnstone, M.D.  
Charles B. Carter, M.D.      Wendy L. Kindig, M.D.  
William H. Dick, M.D., FACP      LeRoy H. King, Jr., M.D., FACP  
Mary A. Margolis, M.D.

1801 N. Senate Blvd, Suite 355, Indianapolis 46202  
Tel: 317-924-8425

By Physician Referral

Answering Service 926-3466

CLINICAL NEPHROLOGY, RENAL TRANSPLANTATION, HEMODIALYSIS, PERITONEAL DIALYSIS, HYPERTENSION, FLUID AND ELECTROLYTE IMBALANCE, CRITICAL CARE.

**MERIDIAN MEDICAL GROUP, INC.**  
**MAIN OFFICE—1801 N. Senate Blvd.**  
**929-5800**

**NORTH OFFICE—3077 E. 98th St.**  
**(98th & Keystone) 843-8704**

#### CARDIOLOGY

Richard M. Nay, M.D. 929-8505  
Warren E. Coggeshall, M.D. 846-5666  
Richard R. Schumacher, M.D. 929-5818  
Martin R. See, M.D. 929-5817

#### GASTROENTEROLOGY

Robert D. Pickett, M.D. 846-4696  
Lee G. Jordan, M.D. 929-5826  
Martin P. Meisenheimer, M.D. 929-5816  
John C. Kohne, M.D. 929-5822

#### HEMATOLOGY/ ONCOLOGY

James E. Schroeder, M.D. 929-5812  
Frank A. Workman, M.D. 929-5813

#### INFECTIOUS DISEASES

Michael L. Zeckel, M.D. 929-5814

#### METABOLISM & ENDOCRINOLOGY

William M. Holland, M.D. 843-8700

#### INTERNAL MEDICINE

Hunter A. Soper, M.D. 929-5810  
Douglas H. White, Jr., M.D. 843-8736  
B. T. Maxam, M.D. 843-8703  
Michael B. DuBois, M.D. (GERIATRICS)  
929-5806

Patricia K. Hendershot, M.D. 929-5815  
Douglas J. Moeller, M.D. 929-5808  
Timothy J. Story, M.D. 929-5811  
John F. Schaefer, Jr., M.D. 929-5807

#### NEUROLOGY

#### EEG AND EMG LAB

Norman W. Oestrike, M.D. 929-5828  
Charles E. Rehn, M.D. 929-5827  
John R. Scott, M.D. 929-5819  
Bradford R. Hale, M.D. (PEDIATRICS)  
929-5823

Robert J. Alonso, M.D. 929-5824  
Michael W. French, M.D. 929-5830

#### PULMONARY DISEASES

Michael R. Niemeier, M.D. 929-5820

## CLINICAL, ANATOMIC PATHOLOGY



### The Medical Laboratory

of Drs. Thornton - Haymond - Costin - Buehl  
Bolinger - Warner - McGovern - McClure - Hooker

5940 West Raymond Street, Indianapolis, Indiana 46241

Phone: (317) 248-2448

### COMPLETE LABORATORY SERVICES

Serving Indiana Since 1947

- MICROBIOLOGY
- SEROLOGY
- CHEMISTRY
- SURGICAL PATHOLOGY
- HEMATOLOGY
- COAGULATION
- FORENSIC
- CYTOLOGY
- EKG
- VETERINARY PATHOLOGY
- TOXICOLOGY
- COURIER SERVICES



### CLINICAL AND ANATOMIC PATHOLOGY

Central Testing Facility:

5940 W. Raymond St.

For information and details phone  
248-2448

## RHINOLOGY

By appointment only

317-359-9636

### CARL B. SPUTH, M.D.

*Diseases & Surgery of Nose & Sinuses  
Plastic Surgery of the Nose  
Nasal Allergy, Rhinomanometry*

5506 E. 16th St.

Indianapolis 46218

# PHYSICIANS' DIRECTORY

## OTOLOGY

### MERIDIAN OTOLOGY LAB

- \*Complete Audiometric Evaluations
- \*Hearing Aid Evaluations and Dispensing
- \*Brainstem Auditory Evoked Response
- \*Visual Evoked Response
- \*Electronystagmography

Richard Kurtz, M.D.      Jack Summerlin, M.D.  
Kathleen Corbin, M.A., CCC-A  
Audiologist

3266 N. Meridian Street      Indianapolis, Indiana  
Suite B12      (317) 925-7077

## PSYCHIATRY

### Davis Psychiatric Clinic, Inc.

1431 North Delaware Street  
Indianapolis, Indiana 46202  
317/634-9930

James R. Davis, M.D.      R. Peter Mohlman, M.D.  
Larry M. Davis, M.D.      George McAfee, M.D.  
Timothy B. Hudson, M.D.      Judith L. Campbell, M.D.  
Balwant S. Mallik, M.D.

Comprehensive Child, Adolescent, Adult Psychiatry  
Sexual Therapy, Crisis Intervention  
Alcohol and Substance Abuse

## DERMATOPATHOLOGY

### DERMATOPATHOLOGY LABORATORY

Larry J. Buckel, M.D.  
Robert M. Hurwitz, M.D.

Howard R. Gray, M.D.  
William B. Moores, M.D.



Diplomates of the American Boards  
of  
Dermatology and Dermatopathology

*Specializing in*  
Inflammatory Skin Diseases  
and  
Neoplasms of the Skin

9202 North Meridian Street  
Suite 215

Approved for and Accept  
Medicare and Medicaid  
Assignment

Indianapolis, Ind. 46260  
(317) 843-2204

UPS Mailers and Courier Service Available



# *PHYSICIANS' DIRECTORY*

## ONCOLOGY—HEMATOLOGY

### INDIANA ONCOLOGY-HEMATOLOGY CONSULTANTS



#### ADULT ONCOLOGY-HEMATOLOGY

Laurence H. Bates, M.D.  
William H. Bond, M.D.  
William M. Dugan, M.D.  
Redmond P. Hogan, M.D.  
Gregory W. Smith, M.D.

#### PEDIATRIC ONCOLOGY-HEMATOLOGY

Deborah S. Provisor, M.D.

#### HOSPICE CARE-INTERNAL MEDICINE

Neil E. Irick, M.D.

1828 N. ILLINOIS  
INDIANAPOLIS  
INDIANA 46202

PHONE: 317/927-5770  
TOLL FREE: 1-800-ONC-HEME  
1-800-662-4363

*Located in the Byram Gates Middleton House  
Listed on the National Register of Historic Places*

# PHYSICIANS' DIRECTORY

## CLINICAL, ANATOMIC PATHOLOGY



### CENTRAL INDIANA PATHOLOGY LABORATORIES, INC.

Edwin E. Pontius, M.D., F.C.A.P.  
*Director*

Mary L. Forster, M.D., F.C.A.P.  
*Co Director*

Elizabeth C. Bond, M.T.(ASCP), S.M  
*Administrator*

- PROMPT WALK-IN SERVICE
- 24 HOUR TURNAROUND FOR MOST TESTS
- COURIER SERVICE FOR PHYSICIAN OFFICES
- ASSIGNMENT ACCEPTED ON MEDICARE AND MEDICAID
- BLUE SHIELD PREFERRED PROVIDER

**MAIN LABORATORY**  
Northwest Medical Building  
3500 Lafayette Rd.  
291-9364

**BRANCH LOCATIONS**  
Westlake Medical Building  
805 Beachway Dr. 244-7754  
Zionsville  
50 Boone Woods 873 4286

***\*A FULL SERVICE OUTPATIENT CLINICAL LABORATORY\****

## ORTHOPEDIC FOOT SURGERY

### ROBERT M. PALMER, M.D. A.A.O.S. F.A.C.S.

Diplomate of the American Board  
of Orthopaedic Surgery

Member of the American Orthopaedic  
Foot and Ankle Society

### ORTHOPAEDIC RECONSTRUCTIVE SURGERY OF THE FOOT AND ANKLE

2020 W. 86th Street, Suite 304  
Indianapolis, Indiana 46260  
(317) 872-3364

## HAND SURGERY

### VIDYASAGAR S. TUMULURI, M.D., F.A.C.S., INC.

DIPLOMATE AMERICAN BOARD OF SURGERY

*Acute & Reconstructive Hand Surgery*

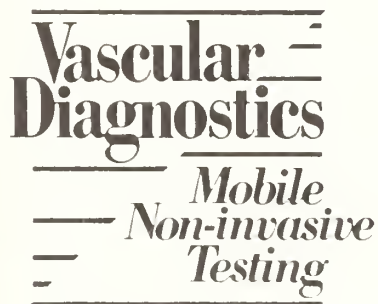
By Appointment South Sherman Professional Complex  
Telephone (317) 783-1319 3417 S Sherman Dr Suite F  
If No Answer Call (317) 926-3466 Beech Grove Indiana 46107

A space this size in the Physicians' Directory costs only \$120. Even a notice this size will serve to provide referrals for the next 12 months.

# PHYSICIANS' DIRECTORY

## VASCULAR DIAGNOSTICS

Mobile vascular laboratory service



State of the art non-invasive vascular testing

Performed on site at various hospitals throughout central Indiana. Current sites include Danville, Lebanon, Logansport, Monticello and Rushville.

### EXAMS AVAILABLE INCLUDE:

1. Cerebrovascular assessment
  - a. Direct visualization (Real-time B-mode ultrasound).
  - b. Indirect tests (Periorbital Doppler exam, spectral analysis).
2. Extremity exams
  - a. Arterial Doppler exam (upper and lower extremities).
  - b. Venous Doppler exam (upper and lower extremities).
  - c. Thoracic outlet Doppler screen.
  - d. Digital mapping (e.g. for evaluation of vasospastic disorders).
  - e. Penile Doppler (evaluation for vasculogenic impotence).
  - f. Post-occlusive lower extremity Doppler exam.

For information regarding examination sites and patient scheduling call (317)-872-4129, outside of Indianapolis call 1-800-662-5367. (Offices of Drs. Gardner, Herring, LeGrand, and Madison). Additional exam sites available.



# PHYSICIANS' DIRECTORY

## OPHTHALMOLOGY



**Indiana Eye Associates**

**COMPLETE  
MEDICAL, DIAGNOSTIC & SURGICAL  
OPHTHALMIC SERVICES**

- Eye Examinations
- Consultations
- Surgery: Cataract, Implant, Glaucoma, Laser, Pediatric, Plastic, Retinal, Corneal and Refractive
- Contact Lenses: Hard, Soft, Gas Permeable & Extended Wear
- Visual Fields
- Ocular & Endothelial Photography
- Ultrasonography

**Physicians:**

David L. Alvis, M.D.	Jack L. Kane, M.D.
Peter H. Cahn, M.D.	John E. Mitchelson, M.D.
George A. Clark, M.D.	Francis W. Price Jr., M.D.
Parvin D. Gillim, M.D.	George E. Waters Jr., M.D.

Indiana Eye Associates P.C.  
9100 Meridian Square  
50 East 91st Street (at North Meridian)  
Indianapolis, IN 46240  
Phone: (317) 848-1348

## NEUROLOGY

### **SHIRLEY M. MUELLER, M.D.** NEUROLOGY

Pain, Headache &  
Diseases of the  
Autonomic Nervous System  
(including testing)

**317-871-6000**

**NORTH:** St. Vincent's Professional Bldg. #726  
**SOUTH:** Greenwood Heights Professional Bldg. #6

## ABDOMINAL SURGERY

### **TED W. GRISELL, M.D.**

*Providing consultative services  
for physicians throughout Indiana  
for patients with  
complex management problems*

5317 East 16th Street  
Indianapolis 46218

317-359-8261

Phone answered 24 hours

### **Attention Indiana Physicians**

The *Physicians' Directory* is the most ethical and professional method of announcing specialty practice. It is also the most effective medium for listing office location, office hours, and telephone number for the convenience of colleagues in referring patients.

The title of diplomate of a specialty examining board, a requirement for admission to the *Directory*, offers its assurance of qualifications, whether listed or not.

Family physicians may announce office schedules that are reciprocally staggered in order to provide access to evening and weekend and holiday medical service.

In addition to providing benefits to physicians, the *Directory* is a practical means of providing financial support for INDIANA MEDICINE.

All diplomates of the ISMA are invited to enter a professional card in the *Directory*.

# NEWS NOTES

## Roche Receives HHS Award for Its Orphan Drug Efforts

Hoffmann-LaRoche has received a special award from the Department of Health and Human Services for its work in developing and marketing orphan drugs. In addition, John J. Burns, Ph.D., who retired recently as Hoffmann-La Roche vice-president of research, received an individual award for his dedicated effort toward orphan drug development.

Actor Jack Klugman (Quincy), Dr. Marion Finkel, Dr. Edward Brandt and Abby Myer also received awards.

Hoffmann-La Roche's "Orphan Drugs: Medicines for the Few" (No. 18 of the series on public issues) is a small pamphlet that outlines the urgency, difficulties, public spiritedness and corporate and personal sacrifices which are going into a growing campaign to relieve the problems of patients with curable or improvable diseases when the diseases are so rare that profits or break-evens are not to be expected while making the drugs they need (orphan drugs).

## ACSH Newsletter Examines Cost of Generic Drugs

The May/June 1985 issue of "ACSH News & Views" features a detailed discussion of "The Real Cost of Generic Drugs."

The marketing of a useful and popular drug whose patent has expired is a prize aggressively sought by drug makers. Freed from the necessity of amortizing the huge investment involved in discovery and development of a new drug, manufacturers other than the original patentee may produce the drug carefully and satisfactorily and provide it at a cost below that of the originator.

Federal law now extends the life of a patent to at least partially cover the non-marketable period between the time the new discovery is patented and the time the FDA approves it for general use. This allows the patent to service its normal function of reward-

## Newsletter Considers HMO, IPA Options

The November 1985 issue of "The Medical Practice Letter" is devoted entirely to an analytical discussion of the IPA. The overall title is "Evaluating HMO/IPA Options."

The prepaid element in the two practice modalities is dealt with extensively. While prepaid medical service serves one very important goal, that of determining how much medical service may be supplied at an affordable cost and whether the service that is affordable will be accepted as sufficient, both from the patients' viewpoint and the physicians' viewpoint, there are contrary considerations in all prepaid plans. These should be acknowledged and taken into account by a physician who wishes to choose a method of practice that deviates from the customary fee-for-service model.

The MPL November issue provides much information that is pertinent to the dilemma. The "Letter" is obtainable at \$135 per year. Back issues come for \$12. The address is 227 Everitt St., New Haven, Conn. 06530.

ing invention, discovery and clinical research of a drug.

So far, so good. The above process, however, has its own problems. These are discussed in the publication. Matters such as: Does the new law allow the discoverer of a new drug to recover enough of the investment to encourage search for other new drugs? Will the discovery of new drugs be hindered in the future because of high costs of research and development? Will the supervisory functions of the FDA be sufficient to guarantee that the generic drug makers will produce the now-unpatented drug in as high a quality as the patent-holder did?

The very important, non-critical discussion of these problems is a subject of intense interest to the medical profession. Copies may be obtained free from the American Council on Science and Health at 47 Maple St., Summit, N.J. 07901.

## AMA Publishes Reports on Alzheimer's Disease, Hepatitis B Vaccine

Alzheimer's Disease and hepatitis B vaccine are discussed in two recent issues of *JAMA*.

The Dec. 6 issue contains a report of research on Alzheimer's Disease, which demonstrated a lack or large reduction of corticotropin releasing factor (CRF) in the frontal and temporal cortex of patients who died of the disease. An equal number of control patients who died without psychiatric or neurologic disease had normal findings in this regard.

The Dec. 12 issue of *JAMA* contains an article that rates hepatitis B vaccine as efficacious but, due to its high cost, underused. The article reports research which has demonstrated that hepatitis vaccine at one-tenth regular strength, given intradermally, will produce practically the same level of seroconversion as the regular vaccine administered intramuscularly.

## 'High-Tech' Medicines to Require Improved Consumer Education

Dr. Raymond A. Gosselin, president of the Massachusetts College of Pharmacy and Allied Health Sciences, in a speech before the annual meeting of the Council on Family Health, said that the coming era of high-tech medicine will require greater attention to the consumers' need for information.

He stated: "New technology will simplify the taking of medicines, which is now subject to human error." He added that a healthier, far better-educated, older citizenry will demand more "concise, succinct and personalized" health information than is normally available today. "In a world of computers and satellite networks, consumer information is the bridge, the keystone, that links high-tech communications to new medicinal products and that allows Americans to use these products safely and effectively."

## New ISMA Members

The following physicians were welcomed in December as new members of the Indiana State Medical Association:

Anthony A. Anigbo, M.D., Merrillville, neurology.

Joseph A. Beardsley, M.D., Franklin, obstetrics and gynecology.

Clinton D. Cater Jr., M.D., Elkhart, obstetrics and gynecology.

Terry A. Crafton, M.D., Richmond, emergency medicine.

Maria F. Curfman, M.D., Lafayette, internal medicine.

Thomas J. Curfman, M.D., Indianapolis, neurology.

Randall E. Currier, M.D. (Resident), Evansville, family practice.

Bharat G. Dave, M.D., Terre Haute, urological surgery.

Roman O. Filipowicz, M.D., LaPorte, neurology.

James O. Gates, M.D., Fort Wayne, therapeutic radiology.

Balazs I. Hatvani, M.D., West Lafayette, psychiatry.

Max A. Henry, M.D., Columbus, ophthalmology.

Javaid Iqbal, M.D., Marion, neurology.

Zafar U. Khalid, M.D., Merrillville, internal medicine.

Roland M. Kohr, M.D., Terre Haute, pathology.

James W. Langston, M.D., New Castle, urological surgery.

Larry L. Lisman, M.D., Terre Haute, family practice.

Satish K. Mahna, M.D., Elkhart, general practice.

Benjamin C. Mannix Jr., M.D., LaPorte, ophthalmology.



John F. Miller, M.D., Knightstown, family practice.

Okechi N. Nwabara, M.D., Gary, internal medicine.

Dirk T. Prais, M.D., Richmond, orthopedic surgery.

Daniel P. Rains, M.D., New Castle, family practice.

David M. Sabato, M.D., South Bend, otorhinolaryngology.

Patrick W. Stack, M.D., Madison, pediatrics.

Susan G. Stack, M.D., Madison, pediatrics.

James S. Torrence, M.D., Terre Haute, internal medicine.

Edward Wang, M.D., Munster, urological surgery.

## I.U. Researchers Win Grant to Support Study of Osteoporosis

A team of Indiana University Medical Center researchers, coordinated by Dr. C. Conrad Johnston Jr., has received a grant of \$3.5 million to study osteoporosis. Dr. Johnston has worked on osteoporosis for 20 years and has been accorded worldwide attention for his research.

The five-year study, "Determinants of Bone Mass in the Elderly," includes four projects that will look at how bone loss is affected by menopause and estrogen levels, genetic factors, calcium supplementation and obesity, and adult-onset diabetes.



## Physician Recognition Awards



The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned, and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.



Albrecht, John E., Clinton  
Archangel, Cesar S., Jeffersonville  
Bacala, Jesus C., Scottsburg  
Baker, Eldon E., Delphi  
Bodmer, Ronald E., Bloomington  
Brown, Lorin M., Munster  
Cook, Thomas L., Evansville  
Emkes, Bernard J., Indianapolis  
Green, Robert F., Fort Wayne

Griest, Walter D., Fort Wayne  
Gupta, Arjun K., Valparaiso  
Hoff, Jesse D., Evansville  
Holl, Carl W., Noblesville  
Jones, Andrew R., Bloomington  
Limcaco, Oscar G., Terre Haute  
McClellan, John B., Gary  
Norlund, John D., South Bend  
Parker, E. Camille, Logansport  
Parker, Francis W., Logansport

Rietman, H. Jerome, Evansville  
Romain, Louis F., Fort Wayne  
Rudolph, Kenneth J., Evansville  
Spencer, C.H., Fort Wayne  
Stewart, L. Ray, Evansville  
Thurston, John B., Indianapolis  
Towannasut, Verapon, Merrillville  
Webb, Orville L., New Castle  
Wymore, James G., Kokomo



# NEWS NOTES

## Here and There . . .

Dr. Stewart Brown of Albany has been named a diplomate of the American Board of Family Practice.

Dr. Raj Jeevan, a Terre Haute internist, has been elected to fellowship in the American College of Physicians.

Dr. Paul W. Cronen Jr. of Madison is a new fellow of the American College of Surgeons.

Dr. Robert A. Morris, an Anderson pediatrician 37 years, has retired from practice.

Dr. Grace L. Walker of Indianapolis has been named a diplomate of the American Board of Family Practice.

Dr. Richard O. Oni of Gary and Dr. Javier C. Ferrer of Munster are new fellows of the American College of Surgeons.

Dr. Kenneth M. Lehman, a Topeka (Ind.) family physician 37 years, retired from practice Dec. 31.

Dr. Philip S. Chua of Merrillville is the new president of the Methodist Hospitals medical staff; Dr. Hakam Safadi is president elect, Dr. Kumpol Dennison is secretary, and Dr. Bassem Atassi is treasurer.

Dr. David F. Wehlage, a South Bend psychiatrist, has received the 1985 Caleb Fiske Prize, awarded by the Rhode Island Medical Society, for his article, "The Art of 'Doing Nothing.'"

Mrs. Debbie Stroessner has been named by the board of directors as executive director of the Vanderburgh County Medical Society; she was formerly acting director.

Dr. Jeffrey M. Barrett of Indianapolis has been elected a fellow of the American College of Obstetricians and Gynecologists.

Dr. Martin J. O'Neill of Valparaiso has been named a "Sagamore of the Wabash" by Indiana Governor Robert D. Orr.

Dr. Frank L. Frable of Lawrenceburg was the guest speaker at a recent meeting of the Southeastern Indiana Chapter, United Ostomy Assn.

Dr. Elliot H. Stokar of Munster discussed the doctor patient relationship at a recent meeting in Merrillville of the Asthma and Allergy Support Group.

Drs. Larry R. Brazley and Marsha L. Muldrow of Gary were guest speakers at a December meeting held in Merrillville to discuss lupus.

Dr. Jack T. Collins of Bluffton was a guest speaker at a recent cardiology seminar held at the Caylor-Nickel Medical Center.



Dr. McCallum

Dr. Donald C. McCallum of Franklin is the new chief of the medical staff, Johnson County Hospital.

Dr. John Mealey Jr. of Indianapolis recently discussed the medical and surgical management of patients with low back pain at a meeting of the medical staff of Huntington Memorial Hospital.

Dr. Howard J. Weinberg of Munster was guest speaker at the December meeting in Merrillville of the Northwest Group, Y-Me Breast Cancer Support Program.

Dr. Hugh C. Hendrie of Indianapolis was guest speaker at a recent meeting of the Bloomington Area Alzheimer's Family Support Group.

Dr. Suzanne B. Knoebel of Indianapolis will receive the Distinguished Fellowship Award from the American College of Cardiology next month. The award is presented to a fellow of the College who has performed outstanding service in the interest of the College.

Dr. Robert E. Dicks of Indianapolis has been presented the Edward M. Micon teaching award by residents of the St. Francis Hospital Center family practice residency program.

Dr. Maurice D. Sixbey is the new president of Dukes Memorial hospital, Peru; Dr. Lloyd L. Hill is vice-president, and Dr. R. D. Jones is secretary.

Dr. Michael L. Baldwin and Dr. Jeffrey B. Quillen, both staff physicians at Reid Memorial Hospital, Richmond, have been certified by the American Board of Emergency Medicine.

Dr. Paul T. Yoder Jr. of Muncie has been named a diplomate of the American Board of Family Practice.

## Two Physicians Share Annual Hammer Prize for Cancer Research

Armand Hammer, of the Hammer Prize Foundation, announces the fourth annual \$100,000 Hammer Prize for cancer research. It will be shared by Dr. Tadatsugu Taniguchi of Osaka University and Dr. Steven A. Rosenberg of the National Cancer Institute.

The two prize winners have done independent and collaborative work that has led to very promising results in treatment of terminal cancer patients with a protocol involving lymphokine-activated killer cells and Interleukin-2.

## Dr. Rogers Appointed to ACOG Task Force

Dr. Robert E. Rogers, Indianapolis, was recently appointed by Dr. William Mixson, president of the American College of Obstetrics and Gynecology, to the Task Force on Voluntary Review of Quality Care.

This task force will study the new quality review initiative recently established by the ACOG and will be responsible for setting guidelines, appointing site reviewers and evaluating OB/GYN departments in the United States.

Dr. Mixson also appointed Dr. Rogers chairman of the Awards Committee for the ACOG/Mead Johnson Clinical Research Awards.



**THE INDIANA MEDICAL FOUNDATION, INC.**  
**3935 North Meridian Street**  
**Indianapolis 46208**

A foundation for charitable, educational, and scientific purposes, organized by the ISMA as an endowment fund to support the educational mission of the Association and INDIANA MEDICINE.

Bequests, legacies, devises, transfers or gifts to the Foundation or for its use are deductible for federal estate and gift tax purposes, in accordance with the Internal Revenue Code.

The Foundation is managed by a board of directors that comprises the members of the ISMA Executive Committee. At present, proceeds from the Foundation investments are awarded to INDIANA MEDICINE to further the continuing medical education program.

Memorial contributions made to the Foundation in lieu of flowers will be acknowledged by the secretary in a letter to the family of the deceased.

*"for religious, charitable, scientific,  
literary or educational purposes"*

# OBITUARIES

## Harry L. Craig, M.D.

Dr. Craig, 71, a Huntingburg general practitioner, died Nov. 20 at his home.

He was a 1959 graduate of Indiana University School of Medicine.

Dr. Craig had been chief of staff at St. Joseph Hospital for several years. He was a past president of the Dubois County Medical Society and was a former ISMA delegate. He was a member of the American Academy of Family Physicians.

## Elmer A. Barron, M.D.

Dr. Barron, 71, a retired East Chicago general practitioner, died Nov. 9 at his home.

He was a 1940 graduate of Loyola University Stritch School of Medicine.

Dr. Barron, a World War II Army veteran, had been on the medical staff of St. Catherine Hospital, East Chicago, since 1950. He retired in 1984.

## H. Lee Worley Sr., M.D.

Dr. Worley, 73, a New Albany ophthalmologist, died Oct. 31 at his home.

He was a 1939 graduate of Hahnemann Medical College of Philadelphia.

Dr. Worley was a member of the Contact Lens Association of Ophthalmologists.

## Dorothy D. Teal, M.D.

Dr. Teal, 88, a retired Columbus general practitioner and obstetrician, died Dec. 6 at a Columbus retirement center.

She was a 1924 graduate of Indiana University School of Medicine. She retired in 1975.

Dr. Teal, who once estimated she had delivered 7,000 babies, was named Senior Citizen of the Year in 1977 by the Bartholomew County Retirement Foundation. She was a member of the American Academy of Family Physicians, the Fifty Year Club of American Medicine, and the ISMA Fifty Year Club.

## Floyd W. Mohler, M.D.

Dr. Mohler, 65, a retired Columbus orthopedic surgeon, died Dec. 17 at a Columbus nursing home.

He was a 1944 graduate of Indiana University School of Medicine and an Army veteran of World War II.

Dr. Mohler, who began practicing in Columbus in 1953, retired in 1980. He was a fellow of the American Academy of Orthopaedic Surgeons and a diplomate of the American Board of Orthopaedic Surgery. He was also a charter member of the Indiana Orthopaedic Society.

## Douglas J. Giorgio, M.D.

Dr. Giorgio, 73, a retired Evansville anesthesiologist, died Dec. 6 at St. Mary's Medical Center.

He was a 1937 graduate of New York Medical College. He served in the Navy from 1942 to 1954.

Dr. Giorgio was an anesthesiologist for St. Mary's Medical Center 25 years. He was certified by the American Board of Anesthesiology. His memberships included the American College of Anesthesiologists.

## Alfred B. Coyner, M.D.

Dr. Coyner, 93, a retired Clarks Hill (Tippecanoe County) general practitioner, died Nov. 20, 1984.

He was a 1915 graduate of Indiana University School of Medicine and was an Army veteran of World War I.

Dr. Coyner, a specialist in thyroid diseases, completed a residency at the Mayo Clinic in 1924. He later practiced in Lafayette. He had been a member of the ISMA Fifty Year Club since 1965.

## Ralph A. Lundeberg, M.D.

Dr. Lundeberg, 66, a Griffith general practitioner 33 years, died Oct. 21.

He was a 1946 graduate of Temple University School of Medicine, Philadelphia.

Dr. Lundeberg, a World War II Army veteran, had once served as a deputy coroner for Lake County. He was a member of the American Academy of Family Physicians.

## Leo R. Radigan, M.D.

Dr. Radigan, 62, a former Gary surgeon, died Dec. 3 in Mississippi.

He was a 1947 graduate of Indiana University School of Medicine.

Dr. Radigan had practiced at the National Heart Institute, Bethesda, Md., and in England before moving to Gary in 1959. He was certified by the American Boards of Surgery and Thoracic Surgery.

## Memorials: Indiana Medical Foundation

The Indiana Medical Foundation, Inc. was formed by the Indiana State Medical Association "for religious, charitable, scientific, literary or educational purposes." It provides financial assistance to support the educational mission of INDIANA MEDICINE.

Contributions made to the Foundation are deductible by donors in accordance with the Internal Revenue Code. Gifts are deductible for Federal estate and gift tax purposes.

The Foundation is pleased to acknowledge the receipt of gifts in remembrance of the following individuals:

Edwin W. Dyar, M.D.  
Maurice E. Glock, M.D.  
Guy A. Owsley, M.D.  
Wilbert Smith  
Eugene S. Rifner, M.D.

Elsie A. Reid  
Lester D. Bibler, M.D.  
Lloyd A. Vogel, M.D.  
Arvine G. Popplewell, M.D.  
Mildred Ramsey



### **Jean F. Hinchman, M.D.**

Dr. Hinchman, 67, a Parker City general practitioner since 1948, died Dec. 3 at Ball Memorial Hospital, Muncie.

He was a 1943 graduate of Indiana University School of Medicine.

Dr. Hinchman was a charter member and past president of the Indiana Academy of Family Physicians. He was also a member of the American Academy of Family Physicians. He was director of the Parker Banking Co., and was formerly a pilot.

### **Rufus M. Nigh, M.D.**

Dr. Nigh, 80, a retired Shelbyville area general practitioner, died Dec. 12 at a Shelbyville convalescent center.

He was a 1932 graduate of Indiana University School of Medicine and was an Army veteran of World War II.

Dr. Nigh was formerly on the board of directors of W.S. Major Hospital in Shelbyville and was the longest serving member of the Shelby County Board of Health. He was a member of the ISMA Fifty Year Club.

### **Ellsworth K. Haugseth, M.D.**

Dr. Haugseth, 74, a retired South Bend orthopedic surgeon, died Dec. 16 at his home.

He was a 1943 graduate of the University of Minnesota Medical School and an Army veteran of World War II.

Dr. Haugseth began practicing in South Bend in 1951. He was a member of the American Academy of Orthopedic Surgeons.

### **Dewey D. Yoder, M.D.**

Dr. Yoder, 87, a retired Pierceton physician, died Nov. 12 at Koseiuko Community Hospital.

He was a 1934 graduate of the University of Michigan Medical College and was an Army veteran of World War I.

Dr. Yoder practiced in Columbus from 1941 to 1960, when he retired; he then moved to Pierceton and had a limited practice there until 1976. He was a diplomate of the American Boards of Ophthalmology and Otolaryngology.

### **Harvey L. Bartsch, M.D.**

Dr. Bartsch, a former South Bend urologist and surgeon, died Dec. 21, 1983, in Sun City, Ariz., where he had moved after retiring in 1976. He was 77.

He was a 1943 graduate of the University of Arkansas School of Medicine.

Dr. Bartsch was certified by the American Board of Urology and was a member of the American Urological Assn.

### **John E. Owen, M.D.**

Dr. Owen, 85, a retired Indianapolis surgeon, died Dec. 25 at his home in Carmel.

He was a 1924 graduate of Indiana University School of Medicine and was an Army veteran of World War II.

Dr. Owen, who retired in 1967, had been an associate professor at Indiana University School of Medicine. He was a founder of the Central Surgical Assn., a fellow of the American College of Surgeons and a member of the ISMA Fifty Year Club.

## **PATIENTS NEEDED FOR DIABETES RESEARCH STUDY**

The Diabetes Research and Training Center, Indiana University School of Medicine, is seeking patients for studies with an experimental aldose reductase inhibitor to determine if this drug will prevent or retard the development of diabetic retinopathy. Aldose reductase inhibitors work by preventing the accumulation of sorbitol in tissues including the lens, nerves and retina. They have already been found to prevent metabolic cataracts and to improve diabetic neuropathy in experimental trials. Since the retinal cells accumulate sorbitol, this trial is designed to determine if the administration of the drug would prevent retinopathy or retard its progress. The drug is ex-

perimental and although no serious side effects have been found, this study will require close follow-up for one to two years. The potential benefit for patients would be close follow-up of their diabetes and retinopathy including retinal photographs and the possible prevention of a serious and disabling complication of diabetes. The trial is in a double-blind format. Otherwise healthy patients with either type I (juvenile) or type II (adult) diabetes are being sought. Patients either without retinopathy or with non-proliferative retinopathy would qualify. Patient referral may be made by calling or having the patients call the Diabetes Center at (317) 630-6374.

# THE INDIANA STATE MEDICAL ASSOCIATION

## OFFICERS

President—Paul Siebenmorgen, Terre Haute  
 Pres-elect—Shirley Khalouf, Marion  
 Immed Past Pres—Lawrence E. Allen, Anderson  
 Executive Director—Donald F. Foy, Indpls  
 Treasurer—George H. Rawls, Indpls  
 Asst Treas.—Max Wesemann, Franklin  
 Speaker—Fred W. Dahling, New Haven  
 Vice Speaker—C. Dyke Egnatz, Schererville

## EXECUTIVE COMMITTEE

\*Paul Siebenmorgen, Terre Haute  
 Shirley Khalouf, Marion  
 Lawrence E. Allen, Anderson  
 George H. Rawls, Indpls  
 Max Wesemann, Franklin  
 John D. MacDougall, Beech Grove  
 Fred W. Dahling, New Haven  
 C. Dyke Egnatz, Schererville  
 Mark M. Bevers, Seymour  
 Michael Mellinger, LaGrange

## TRUSTEES (Terms end in October)

### District

- 1—E. DeVerre Gourieux, Evansville (1986)
- 2—Paul J. Wenzler, Bloomington (1987)
- 3—Thomas A. Neathauer, Jeffersonville (1988)
- 4—Mark M. Bevers, Seymour (1986)
- 5—Benny Ko, Terre Haute (1987)
- 6—Clarence G. Clarkson, Richmond (1988)
- \*7—John D. MacDougall, Beech Grove (1986)
- 7—William H. Beeson, Indianapolis (1987)
- 8—William C. VanNess II, Summitville (1987)
- 9—Max N. Hoffman, Covington (1988)
- 10—Nicholas L. Polite, Hammond (1986)
- 11—Edward L. Langston, Flora (1987)
- 12—Michael O. Mellinger, LaGrange (1988)
- 13—John W. Luce, Michigan City (1986)

\*Chairman

## ALTERNATE TRUSTEES (Terms end in October)

### District

- 1—Bruce W. Romick, Evansville (1988)
- 2—Jerome E. Melchior, Vincennes (1986)
- 3—Richard G. Huber, Bedford (1986)
- 4—William E. Cooper, Columbus (1988)
- 5—Fred E. Haggerty, Greencastle (1988)
- 6—Ray A. Haas, Greenfield (1986)
- 7—Donna J. Meade, Indianapolis (1988)
- 7—Michael B. DuBois, Indianapolis (1988)
- 8—Douglas A. Triplett, Muncie (1988)
- 9—R. Adrian Lanning, Noblesville (1986)
- 10—Frank M. Sturdevant, Valparaiso (acting)
- 11—Jack W. Higgins, Kokomo (1986)
- 12—Thomas A. Felger, Fort Wayne (1986)
- 13—Steven M. Yoder, Goshen (1988)

## AMA DELEGATES (Terms end Dec. 31)

Everett E. Bickers, Floyds Knobs (1986)  
 Malcolm O. Scamahorn, Pittsboro (1986)  
 Gilbert M. Wilhelmus, Evansville (1986)  
 Marvin E. Priddy, Fort Wayne (1987)  
 Peter R. Petrich, Attica (1987)  
 Thomas C. Tyrrell, Hammond (1987)

## AMA ALT. DELEGATES (Terms end Dec. 31)

Alvin J. Haley, Carmel (1986)  
 John A. Knote, Lafayette (1986)  
 Robert M. Seibel, Nashville (1986)  
 Martin J. O'Neill, Valparaiso (1987)  
 Herbert C. Khalouf, Marion (1987)  
 Vincent J. Santare, Munster (1987)

## DISTRICT OFFICERS AND MEETINGS

- 1—Pres: Jeffry C. Rendel, Jasper  
 Secy: Syed A. Ali, Boonville  
 Annual Meeting: 1986, Evansville
- 2—Pres: Frederick R. Ridge Jr., Linton  
 Secy: Harry Rotman, Jasonville  
 Annual Meeting:
- 3—Pres: Gordon L. Gutmann, Jeffersonville  
 Secy: Olegario J. Ignacio, Jeffersonville  
 Annual Meeting: 1986, Jeffersonville
- 4—Pres: Rosemary E. Weir, Brownstown  
 Secy: Charles Calhoun, Seymour  
 Annual Meeting: May 7, 1986, Seymour
- 5—Pres: J. F. Swaim, Rockville  
 Secy: Peggy S. Swaim, Rockville  
 Annual Meeting: 1986, Parke-Vermillion Co.
- 6—Pres: Douglas Carter, Shelbyville  
 Secy: William Nesbitt, Connersville  
 Annual Meeting:
- 7—Pres: John M. Records, Franklin  
 Secy: Marshall H. Trusler, Indianapolis  
 Annual Meeting:
- 8—Pres: Conrado R. Miranda III, Winchester  
 Secy: Jerome M. Leahey, Union City  
 Annual Meeting: June 4, 1986, Delaware
- 9—Pres: Walter P. Beaver, Noblesville  
 Secy: Dennis L. Pippenger, Noblesville  
 Annual Meeting: June 11, 1986, Noblesville
- 10—Pres: Frank M. Sturdevant, Valparaiso  
 Secy: Barron M. Palmer, Hammond  
 Annual Meeting: Sept. 24, 1986, Valparaiso
- 11—Pres: Michael Ball, Marion  
 Secy: Fred Poehler, LaFontaine  
 Annual Meeting: Sept. 17, 1986, Marion
- 12—Pres: Antonio Donesa, Fort Wayne  
 Secy: Thomas Smith, New Haven  
 Annual Meeting: Sept. 18, 1986, Fort Wayne
- 13—Pres: Michael Thomas, Elkhart  
 Secy: Thomas J. Eberts, South Bend  
 Annual Meeting: Sept. 10, 1986, Elkhart

## COMMISSION CHAIRMEN

Constitution & Bylaws  
 Lloyd L. Hill, Peru  
 Legislation  
 Edward L. Langston, Flora  
 Physician Impairment  
 Larry M. Davis, Indianapolis  
 Public Relations  
 R. Adrian Lanning, Noblesville  
 Medical Services  
 Michael O. Mellinger, LaGrange  
 Convention Arrangements  
 James L. Grainger, South Bend  
 Medical Education  
 Franklin A. Bryan, Fort Wayne  
 Sports Medicine  
 Gary Prah, Lafayette  
 Ronald G. Blankenbaker, Indianapolis

## COMMITTEE CHAIRMEN

Negotiations  
 John A. Knote, Lafayette  
 Medical Education Fund  
 John W. Beeler, Indianapolis  
 Grievance  
 G. Beach Gattman, Elkhart  
 Future Planning  
 W.C. Van Ness II, Alexandria  
 Medico Legal  
 John W. Beeler, Indianapolis  
 Indiana Medical Foundation  
 Frank B. Ramsey, Indianapolis  
 Reduce Drunk Driving  
 Michael DuBois, Indianapolis

## SECTION OFFICERS

ANESTHESIOLOGY  
 Chmn: Steven R. Young, Carmel  
 Secy: Donald L. Weninger, Michigan City

CUTANEOUS MEDICINE  
 Chmn: Donald W. Smith, South Bend  
 Secy: Mary C. Greist, Indianapolis

DIRECTORS OF MEDICAL EDUCATION  
 Chmn: Glenn D. Baird, Evansville  
 Secy: Thomas P. Dunfee, South Bend

EMERGENCY MEDICINE  
 Chmn: Kenneth L. DeHart, Kokomo  
 Secy: Eve Olson, Indianapolis

FAMILY PRACTICE  
 Chmn: Bernard J. Emkes, Indianapolis  
 Secy: William C. Spence, Knightstown

INTERNAL MEDICINE  
 Chmn: Dennis E. Stone, Columbus  
 Secy: Robert L. Rudesill, Indianapolis

MEDICAL DIRECTORS & STAFF  
 PHYSICIANS OF NURSING FACILITIES  
 Chmn: Hugh K. Thatcher, Indianapolis  
 Secy: Ivan T. Lindgren, Aurora

NEUROLOGY  
 Chmn: Charles A. Bonsett, Indianapolis  
 (Pro Tem)  
 Secy:

NEUROLOGICAL SURGERY  
 Chmn: Daniel F. Cooper, Indianapolis  
 Secy: Marvin R. Bernard, Merrillville

NUCLEAR MEDICINE  
 Chmn:  
 Secy: Aslam R. Siddiqui, Indianapolis

OBSTETRICS & GYNECOLOGY  
 Chmn: J. Robert Stanley, Muncie  
 Secy: William E. Graham, Fort Wayne

OPHTHALMOLOGY  
 Chmn: Forrest Ellis, Indianapolis  
 Secy: Gerald Keener, Indianapolis

ORTHOPAEDIC SURGERY  
 Chmn: Ben Woodward, Evansville  
 Secy: Wade Rademacher, Beech Grove

OTOLARYNGOLOGY, HEAD & NECK SURGERY  
 Chmn: William E. Cooper, Columbus  
 Secy: Richard T. Miyamoto, Indianapolis

PATHOLOGY & FORENSIC MEDICINE  
 Chmn: Merritt O. Alcorn, Madison  
 Secy: Arthur C. Jay, Columbus

PEDIATRICS  
 Chmn: Michael A. Hogan, Indianapolis  
 Secy: Kenneth C. Castor, Fort Wayne

PREVENTIVE MEDICINE & PUBLIC HEALTH  
 Chmn: Jane M. Irmscher, Fort Wayne  
 Secy: Francis B. Warrick, Richmond

PSYCHIATRY  
 Chmn: Philip M. Coons, Indianapolis  
 Secy: Cherryl G. Friedman, Noblesville

RADIOLOGY  
 Chmn: Robert W. Holden, Plainfield  
 Secy: Richard L. Pitman, Columbus

SURGERY  
 Chmn: John D. Pulcini, Evansville  
 Secy: Ted W. Grisell, Indianapolis

## ISMA KEY STAFF PERSONNEL

Donald Foy—Executive Director  
 Michael Huntley—Assoc Exec Director  
 Richard King—Attorney, IMPAC, Lobbyist,  
 Assoc Exec Director  
 Ronald Dyer—Attorney, Assoc Exec Director  
 John Wilson—Accountant  
 Adele Lash—Communications  
 Howard Grindstaff—Field Services  
 Sara Klein—Field Services  
 Bob Sullivan—Field Services, AMA Relations  
 Mary Alice Cary—Executive Assistant  
 Rosanna Iler—Membership, Auxiliary  
 Beckett Shady King—CME, Travel, House of  
 Delegates  
 Karyl Hancock—Convention Coordinator,  
 Meetings  
 Tom Martens—Members' Health Insurance  
 Carol Ann Cunningham—Resident Medical  
 Society, Specialty Society Services  
 Martin Badger—INDIANA MEDICINE



# COMMERCIAL ANNOUNCEMENTS

**FAMILY PRACTICE**—in southeastern Indiana near Cincinnati. Excellent location in beautiful old family home. Fully equipped office, off-street parking, modern hospital 10 minutes from office. Established practice over past 22 years. Will consider partnership, sale, and all other practice options. Intend to be retired within the next 5 years. Call (812) 537-3504.

**1986 CME CRUISE/CONFERENCES ON SELECTED MEDICAL TOPICS**—Caribbean, Mexican, Hawaiian, Alaskan, Mediterranean. 7-12 days year-round. Approved for 20-24 CME Cat. 1 credits (AMA/PRA) & AAFP prescribed credits. Distinguished professors. FLY ROUNDTRIP FREE ON CARIBBEAN, MEXICAN, MEDITERRANEAN, ALASKAN CRUISES. Excellent group fares on finest ships. Registration limited. Pre-scheduled in compliance with present IRS requirements. Information: International Conferences, 189 Lodge Ave., Huntington Station, N.Y. 11746—(516) 549-0869.

**ANESTHESIOLOGIST**, BE, available for locum tenens work. Licensed in Indiana and Michigan. CV on request. Please contact: W. T. Kirsten, M.D., P.O. Box 542, Lapeer, Mich. 48446 or call (313) 667-9309.

**OUTSTANDING PRACTICE OPPORTUNITY** immediately available . . . general practice in east central Indiana established clinic. Guaranteed salary. Fee for service incentives. Regular hours. Send Curriculum Vitae to INDR, P.O. Box 1631, Marion, Indiana 46952.

**SEMINARS**—Most major ski areas, Club Med, Disney World and other resorts. Topic: MEDICAL/LEGAL and FINANCIAL MANAGEMENT. Accredited. CURRENT CONCEPT SEMINARS, INC. (since 1980), 3301 Johnson St., Hollywood, FL 33021—(800) 428-6069. Fee \$175.

**DIAGNOSTIC RADIOLOGIST**, also Board certified in Nuclear Medicine, seeks position in central Indiana. 8 years experience as director of nuclear medicine, major university hospital. Competent in CT Scanning, ultrasound and special procedures. Phone Dr. H. Kidman, (317) 787-3296.

**CONDOMINIUM FOR SALE**—Pointe, Lake Monroe. 2 bedrooms, with 3rd in loft. 1 bath. All G.E. appliances and window treatments included. Never a rental. Immaculate. \$49,500. (317) 253-7280 (home).

**OFFICE SPACE AVAILABLE**: Greenwood Professional Park. Excellent accommodations in an established medical complex. Attractive. Well landscaped setting. Plenty of convenient parking. Complete laboratory and radiological services on premises. Centrally located in the fastest growing area of Indiana. Two miles from new University Heights Hospital. Ideal location for the individual practitioner or as an additional location for group practices. Ready for occupancy. No leasehold expenses required. For additional information, please call (317) 881-3565.

**INDIANA, NORTH OF INDIANAPOLIS**: Immediate full time and part time positions in newly renovated emergency department at 135-bed facility. Hourly salary, flexible scheduling, malpractice insurance provided. For more information contact Emergency Consultants, Inc., 2240 South Airport Road, Room 20, Traverse City, MI 49684; 1 800 253 1795 or in Michigan 1-800-632-3496

**STAFF PSYCHIATRIST**—Immediate opening for full time staff psychiatrist (bd. elig. cert.) to join full time medical director at developing CMHC in Indianapolis area. Inpt., outpat., consult., and day hosp. svc. I.U. Med. Ctr. in nearby Indpls. Competitive sal. and bnfts. Reply to Susan M. Anderson, M.D., Medical Director, Cummins MHC, P.O. Box 158, Danville, IN 46122.

**ACTIVE SOLO G.P. RETIRING**—Office 30x60 with attached garage on 114x250 lot, 18 parking spaces. Full basement, fully furn. paneling and carpeting. University town 10,000. New 85-bed hosp. Will introduce. Adequate for two M.D.s. F.R. Dettloff, 407 Melrose Ave., Greencastle, Ind. 46135—(317) 653-9789 or (317) 653-4806.

**EMERGENCY MEDICINE POSITION AVAILABLE**: Excellent opportunity for experienced emergency physician to join career emergency group practicing in northwestern Indiana, near Chicago. If you have over 4,000 hours experience, please contact Laurie Perkins at (312) 327-0777.

**DIRECTOR OF MEDICAL SERVICES**—Full time physician to direct medical/nursing services for 800-bed long-term care facility. Applicants must have five years experience, board certified in family practice or internal medicine, licensed to practice in Indiana. Excellent working conditions and benefits. Contact Personnel, Indiana Veterans' Home, 3851 North River Road, West Lafayette, IN 47906—(317) 497-8506. Affirmative Action, Equal Employment Opportunity, Veterans' Preference Employer.

**VERSATILE SURGEON** wanted to complement aggressive family practice group in rural north-eastern Minnesota resort community. Well equipped 40-bed hospital with proven surgical practice volume. Outstanding outdoor recreational opportunities with time off to enjoy it. Reply with CV to E. Johnson, Ely Medical Center, Ltd., 224 E. Chapman St., Ely, Minn. 55731—(218) 365-3151.

Commercial announcements are published as a service to members of the Indiana State Medical Association. Only ads considered to be of advantage to members will be accepted. Advertisements of a truly commercial nature (e.g., firms selling brand products, services, etc.) will be considered for display advertising.

All orders must be in writing and will automatically be set in regular classified type. Box numbers are not available.

## Charges:

Indiana physicians	25¢/word (\$5 min)
Out-of-state physicians	35¢/word (\$7 min)
Hospitals/health care facilities	50¢/word (\$10 min)
Realtors/commercial recruitment and all others	75¢/word (\$15 min)

**Deadline:** First working day of month preceding month of publication.

**Payment Procedure:** Payment in advance is not required. Invoices and tearsheets are mailed to advertisers upon publication. INDIANA MEDICINE is issued on the 10th of each month.

**Address:** INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis, Ind. 46208.



# Family Practice Available In 1986

- Board certified AAFP practitioner retiring.
- Practice well established for 40 years.
- Town of 5000, county seat, has modern 80 bed general hospital:—JCAH approved.
- 18 minutes from Fort Wayne, Indiana
- Offer Salary, partnership or outright sale.

Write: C. Jules Heritier, M.D.  
116 S. Chauncey St.  
Columbia City, IN 46725

## Are You Moving?

If so please send change of address to Membership Dept., ISMA, 3935 N. Meridian St., Indianapolis Ind. 46208, at least six weeks before you move.

Name

Address

City  State  Zip

County

Tel: Office  Tel: Home

IMPORTANT—Attach mailing label from your last copy of INDIANA MEDICINE here.

## ADVERTISERS INDEX

February 1986

Vol. 79

No. 2

American Physicians Life .....	Cover
Brown Pharmaceutical Co., Inc. ....	155
Campbell Laboratories .....	186
Central Pharmaceuticals, Inc. ....	148
Commercial Announcements .....	211
E. F. Hutton & Company .....	133
Eli Lilly & Company .....	142
Halderman Farm Management .....	149
Indiana Medical Bureau .....	173
Indiana Medical Foundation .....	207
Lincoln National Life .....	141
Marion Laboratories .....	157-158
Medical Accounts Group, Inc. ....	137
Medical Protective Company .....	174
Peoples Drug .....	135
Physicians' Directory .....	195-203
Physicians Insurance Co. of Indiana .....	156
Roche Laboratories .....	Covers
Smith Kline Beckman .....	176
Smith Kline & French .....	139
Tipton Cohen & Koch .....	167
Upjohn Company .....	175
U.S. Air Force .....	191

In accepting advertising for publication, INDIANA MEDICINE has exercised reasonable precaution to insure that only reputable, factual advertisements are included. However, we do not have facilities to make comprehensive or complete investigation, and the claims made by advertisers in behalf of goods, services and medicinal preparations, apparatus or physical appliances are to be regarded as those of the advertisers only. Neither sanction nor endorsement of such is warranted, stated or implied by the association.

EXCERPTS FROM A SYMPOSIUM  
"THE TREATMENT OF SLEEP DISORDERS"<sup>8</sup>

... highly effective  
for both sleep induction and  
sleep maintenance

Sleep Laboratory Investigator  
Pennsylvania

... onset of action is  
rapid. ... provides sleep with  
no rebound effect to agitate the  
patient the following day

Psychiatrist  
California

... appears to have  
the best safety record of any  
of the benzodiazepines

Psychiatrist  
California

After 15 years, the experts still concur about the  
continuing value of Dalmane (flurazepam HCl/  
Roche). It provides sleep that satisfies patients. ...  
and the wide margin of safety that satisfies you.

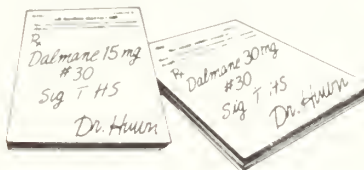
The recommended dose in elderly or debilitated  
patients is 15 mg. Contraindicated in pregnancy.

**DALMANE<sup>®</sup>**  
flurazepam HCl/Roche <sup>®</sup>  
**sleep that satisfies**

15-mg/30-mg  
capsules



References: 1. Kales J. *et al. Clin Pharmacol Ther* 12:691-697, Jul-Aug 1971. 2. Kales A. *et al. Clin Pharmacol Ther* 18:356-363, Sep 1975. 3. Kales A. *et al. Clin Pharmacol Ther* 19:576-583, May 1976. 4. Kales A. *et al. Clin Pharmacol Ther* 32:781-788, Dec 1982. 5. Frost JD Jr, DeLucchi MR. *J Am Geriatr Soc* 27:541-546, Dec 1979. 6. Dement WC. *et al. Behav Med*, pp 25-31, Oct 1978. 7. Kales A, Kales JD. *J Clin Psychopharmacol* 3:140-150, Apr 1983. 8. Tennant FS. *et al. Symposium on the Treatment of Sleep Disorders. Teleconference*, Oct 16, 1984. 9. Greenblatt DJ, Allen MD, Shader RI. *Clin Pharmacol Ther* 21:355-361, Mar 1977.



**DALMANE<sup>®</sup>**  
flurazepam HCl/Roche <sup>®</sup>

Before prescribing, please consult complete product information, a summary of which follows.

**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings, and/or early morning awakening in patients with recurring insomnia or poor sleeping habits. Indicated for chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

**Contraindications:** Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patients to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Withdrawal symptoms rarely reported; abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase, and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

**Dosage:** Individualize for maximum beneficial effect. Adults: 30 mg usual dosage, 15 mg may suffice in some patients. Elderly or debilitated patients: 15 mg recommended initially until response is determined.

**Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl.



Roche Products Inc.  
Manati, Puerto Rico 00701



# #1 FOR SLEEP

After more than 15 years of use, it's #1 for sleep that satisfies. Patients are satisfied because they fall asleep fast and stay asleep till morning.<sup>1-8</sup> And *you're* satisfied by the exceptionally wide margin of safety.<sup>7-9</sup> As always, caution patients about driving or drinking alcohol.

Please see references and summary of product information on reverse side.

**DALMANE<sup>®</sup>**  
flurazepam HCl/Roche <sup>®</sup>  
**sleep that satisfies**





IN THIS ISSUE \*  
SPECIAL INSERT  
Physician's Guide to Indiana Law

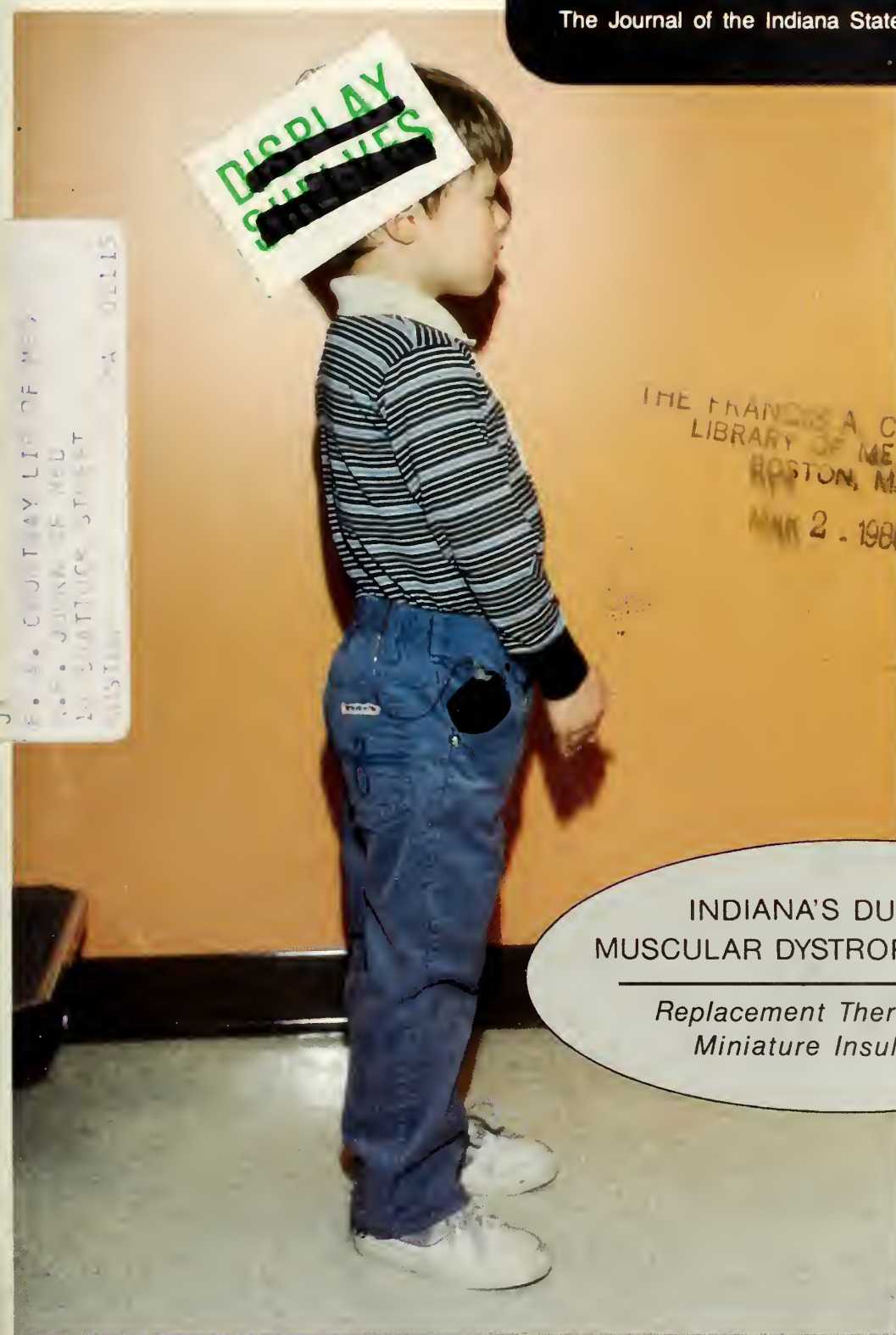
MARCH 1986

VOL.79

NO.3

# INDIANA MEDICINE

The Journal of the Indiana State Medical Association



## INDIANA'S DUCHENNE MUSCULAR DYSTROPHY PROGRAM

*Replacement Therapy using a  
Miniature Insulin Pump*

# **FOR MEDICAL PROFESSIONAL LIABILITY COVERAGE, THE ISMA STRONGLY RECOMMENDS PHYSICIANS INSURANCE COMPANY OF INDIANA.**

Several companies are anxious to provide most Indiana physicians with medical professional liability insurance coverage. *Only one* has received the formal endorsement, support, and sponsorship of the Indiana State Medical Association. That company is PICI, Physicians Insurance Company of Indiana.

Why PICI?

Because PICI is committed to providing Indiana physicians with the best possible coverage at the lowest possible rates throughout their medical careers. Indiana physicians dominate the company's board of directors and serve on budget, claims and underwriting committees. PICI is a publicly held stock company, and provides annual as well as periodic interim financial reports.

With PICI, you know what's happening to your premium dollars. You will receive information about claims experience and trends. You are guaranteed input on company activities, through your physician members of the company's board and its committees. You are part of the company.

Through PICI, you also receive competitively priced auto, homeowners, office protection and personal umbrella coverages, designed and offered with the same long term commitment.

Compare all that PICI offers with what you will obtain from other sources of medical professional liability and other essential insurance coverages. We think you'll agree that the ISMA has endorsed the best.

**The Accountable Company . . .**



**PHYSICIANS INSURANCE  
COMPANY OF INDIANA**

3901 West 86th Street  
Suite 350  
P.O. Box 689059  
Indianapolis, Indiana 46268  
(317) 872-3046 or toll free  
in Indiana (800) 732-1313

# INDIANA MEDICINE

Vol. 79, No. 3  
MARCH 1986

Devoted to the interests of the medical profession and public health in Indiana since 1908.

## SCIENTIFIC ARTICLES

- CME  
Aortic Surgery:  
A Short Synopsis . . . . . 225

## COVER FEATURE

- Duchenne Muscular Dystrophy . . . 236

## PD CRITICAL CARE

- Prevention of Childhood  
Injuries: An Open Agenda . . . . . 242  
Mushroom Poisoning . . . . . 246  
Abdominal Migraine . . . . . 251  
Sick Sinus Syndrome . . . . . 254

- Percutaneous Transluminal  
Angioplasty for Vascuogenic  
Impotence . . . . . 256

## FEATURES

- Guest Editorial:  
Duchenne Muscular Dystrophy . . . 234  
ISMA's Executive Director  
Moving to New York . . . . . 264  
1985 Membership Report . . . . . 277  
Special Insert:  
Physician's Guide to  
Indiana Law . . . . . 293

## DEPARTMENTS, MISCELLANEOUS

- Medical Museum Notes . . . . . 214  
What's New? . . . . . 216  
Future File . . . . . 218  
Cancer Corner . . . . . 220  
Drug Names . . . . . 255  
Book Review . . . . . 262  
CME Quiz . . . . . 269  
Auxiliary Report . . . . . 270  
News Notes . . . . . 272  
New ISMA Members . . . . . 274  
Obituaries . . . . . 289  
ISMA's Leadership . . . . . 290

THE FRANCIS A. COUNWAY  
LIBRARY OF MEDICINE  
BOSTON, MA

MAR 21 1986

USPS 284-440  
ISSN 0746-8288

## OFFICE OF PUBLICATION:

3935 N. Meridian St.,  
Indianapolis, Ind. 46208  
Tel: (317) 925-7545

INDIANA MEDICINE (ISSN 0746-8288) is published monthly by the Indiana State Medical Association. Second-class postage paid at Indianapolis, Ind.

POSTMASTER: Send address changes to INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis, Ind. 46208.

Yearly subscription rates: \$20 domestic, \$22 Canada, \$23 foreign. Library rates: \$18 domestic, \$20 Canada, \$21 foreign. Senior ISMA members and full-time

medical students—\$10. Single copies not available. Subscriptions are renewable annually.

Views expressed do not necessarily reflect the opinions of the editors. No copyright is claimed, unless specifically indicated. Copyright rests solely with authors, who are responsible for statements made in their articles. Scientific and editorial contributions are accepted for exclusive publication, subject to editorial requirements. Publication deadline: 1st day of month preceding month of issue. Instructions for authors available upon request.

All issues since 1967 are available on microfilm from University Microfilms International, 300 N. Zeeb Rd., Ann Arbor, Mich. 48106. Indexed in Index Medicus and Hospital Literature Index.

Advertising rates and data available upon request.

## EDITOR

Frank B. Ramsey, M.D.

## BUSINESS MANAGER

Donald F. Foy

## MANAGING EDITOR

Martin T. Badger

## CIRCULATION MANAGER

Sheryl A. Mahoney

## EDITORIAL BOARD

Alvin J. Haley, M.D.

Alan T. Marty, M.D.

(Terms expire Dec. 31, 1986)

Thomas J. Conway, M.D.

I.E. Michael, M.D.

(Terms expire Dec. 31, 1987)

Elton Heaton, M.D.

Nancy C. A. Roeske, M.D.

(Terms expire Dec. 31, 1988)

Kevin A. Ault

Richard E. Blackburn

Robert S. Flint II

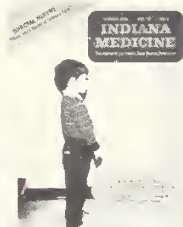
(Terms expire Dec. 31, 1986)

## CONSULTING EDITORS

Steven C. Beering, M.D., Charles A. Bonsett, M.D., Rodney A. Mannion, M.D., Lall G. Montgomery, M.D., Paul S. Rhoads, M.D., W.D. Snively, M.D., I.W. Wilkens, M.D.

## ABOUT THE COVER

Our cover shows Patient "A," age 5, who has been receiving daily injections of adenylosuccinate for more than three years. The pump (Pacesetter® Minimed Infusion Pump Model 502) requires one subcutaneous needle placement (5/8 x 26 gauge) every other day. An update on Indiana's Duchenne Muscular Dystrophy program appears in the scientific section of this issue.





# MEDICAL MUSEUM NOTES



CHARLES A. BONSETT, M.D., Indianapolis

THE ILLUSTRATION shown here is Christian Schrader's sketch of Indianapolis looking west on East Washington Street, circa 1845. The scene is viewed from the approximate location of the Indiana Central Medical College (1849-1852). The *Indianapolis Locomotive* reported on Oct. 20, 1849 (p. 3) that: "The faculty of the Indiana Central Medical College have leased the new brick house on the corner of East and Washington Streets and are now fitting it up for the college..."

Another artist, Joseph Reese, who was 74 in 1912, recalled this scene and this school from his boyhood memories (*The Indianapolis Star*, March 17, 1912, p. 24):

"Indianapolis at that time was a town of about 5,000 ... When I came here I went to work at the Little Hotel that stood on the corner of East and Washington Streets. I paged there one winter and remember the first medical school that was located here.

"I am not able to name the school but it was held in the Martin Little homestead directly across from the hotel. The home was one of the very finest in the city at that time but was given up by Mr. Little and rented to the school after the death of his wife. The professors of the college all stopped at the hotel and I remember the first clinics held.

"An old cooperage shop stood just around the corner from the hotel, and in those days the cooper's work was done with an adz. One day the cooper cut his foot with his tool and took cold in the wound. The man took sick and lockjaw set in before the physicians were called.

"Mr. Little was a great lover of silver and had many spoons made from silver coins. When the professors from the college were called, they placed a spoon in the cooper's mouth to keep him from locking his teeth, but he mashed the spoons and made them worthless as fast as they could be placed in his mouth. He must have used a half bushel of spoons before his jaws



Christian Schrader's drawing of the Indianapolis Courthouse, circa 1845.

became set. The man died eventually, but I remember that the students of the school came to his room every day and heard lectures on the case..."

A Hoosier physician of this era was Dr. John Schlick Riley, uncle of another Indiana artist who was much better known for his verse—James Whitcomb Riley. When and where Dr. Riley received his medical education is unknown. He served as a surgeon in the Mexican War under General Taylor. Following the war, he remained in the west, practiced medicine and looked for gold. In due time, he secured a small fortune, moved on to Louisiana where he married the daughter of a well-to-do planter, and subsequently established a plantation in Texas.

When war was declared between the North and the South, Dr. Riley joined the Confederates as an Army surgeon. He was captured at the fall of Vicksburg and confined for nine months at the federal prison at Alton, Illinois. Dr. Riley recalled this experience many years later (*The Indianapolis Star*, March 31, 1912, p. 13):

"In regard to my experience as a prisoner ... I will say I was treated splendidly by the physicians. They at

once took me into their confidence. I ate at the same table with them, slept in as good a bed as they did. As I was a surgeon, I performed many of the operations ...

"One afternoon as I departed from the hospital I took with me a handbag well fitted with provisions. I was determined to make my escape. It was in the month of June, and shortly after I had left the outskirts of the city, walking boldly, I came to a timothy meadow. The field offered a good hiding place which I knew I would need as I realized I would be missed in a short time.

"After night, when I could see the North Star, I walked 20 miles to Bunker Hill where I took a train to Indianapolis. I stayed at the best hotel and avoided suspicion by pretending I was a land speculator. I saw James Whitcomb Riley (who was then a boy), my brother Frank, and other relatives."

Dr. Riley's other brother, Reuben, the father of James Whitcomb, was a captain in the Union Army at this time.

At the end of hostilities, Dr. Riley returned to Texas and the practice of medicine. He was still vigorous in 1912 at the age of 99 years.



## Generics make the price easier to swallow

When you prescribe a generic drug rather than a brand name drug, it's probably because you've decided that your patient will benefit from the difference in prices. And at Peoples, we make sure that the price difference is the only difference, because the generic drugs we offer your patients are equivalent in quality to brand name drugs.

We were one of the first chains in America to initiate a comprehensive generic drug program, and we believe we stock the largest supply of both brand name and generic drugs. Why? Because we know that for some patients, a healthy savings is strong medicine, too.

For over 80 years, Peoples Drug Stores has served patients reliably and professionally. Today, all the services we offer reflect our continuing commitment to help our customers as their health care needs change.

*Every Peoples has an unlisted phone that's reserved only for doctors and answered only by pharmacists. Please call your local store to obtain the number.*



# WHAT'S NEW?

Chattanooga Corporation has added to its line of Triton® treatment tables. The TRF-3 combines Hi-Lo capability with treatment flexibility. It features electric Hi-Lo action, which allows the table to be lowered to 22 inches for wheelchair access, then raised up to 39 inches for stretcher transfer to provide a comfortable working height for the therapist.

Hewlett-Packard is offering for a limited time to pay the first three finance payments on an HP 77065AC ultrasound imaging system purchased and financed through HP. Hewlett-Packard will also prepare a personalized financial analysis for doctors interested in the offer. The analysis will be based on information provided by the doctors, such as their expected yearly volume of ultrasound exams.

The American Sterilizer Company recently made available its newly revised "Ethylene Oxide Gas Guidelines" brochure. It was developed for users of EtO sterilization equipment, and reflects the most recent regulatory requirements and technological research. It covers proper use and installation of EtO sterilizers as well as guidance regarding personnel training, environmental monitoring, emergency procedures, and other pertinent topics. Local representatives of AMSCO will supply free copies on request.



News of what is new in the medical supply industry is composed of abstracts from news releases by book publishers and manufacturers of pharmaceuticals, clinical laboratory supplies, instruments and surgical appliances. Each item is published as news and does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

Chronomite Laboratories manufactures the Instant-Flow tankless water heater. About the size of Webster's New Collegiate Dictionary, the heater is used as a booster to existing storage-type water heaters. The tankless heater is usually installed close to the point of use. The advantage is lower costs. Savings represent 40% in energy costs and 60% on the projected replacement costs of heaters and piping.

## HOW DOES YOUR CHILD MEASURE UP

Two-thirds of our children can't pass a basic physical fitness test. Many show early signs of heart and circulatory problems.

Why? Most children do not get proper exercise to stay in shape.

The Presidential Physical Fitness Award Program offers a way of getting fit that's effective and FUN.

### SUPPORT YOUR CHILD

...when it comes to physical fitness. Find out if your child's school has a sound physical education program. Write:



**FITNESS**  
Dept. 35  
Washington, D.C.  
20001



Burroughs Wellcome has received FDA approval for marketing Wellbutrin® (bupropion hydrochloride), the first antidepressant of its kind. It is recommended especially for patients who have failed to respond to or who cannot tolerate other antidepressants. It will be marketed as a 75 mg tablet.

Brentwood Instruments has introduced a new fully automatic three-channel ECG, the Cardimax FX-406U. It records a standard 12-lead ECG plus rhythm leads. It features three sensitivity settings, two filters, two chart speeds and interval recording for stress testing. Input/output jacks for use with an oscilloscope or telephone transmission equipment come as standard features. Also a very visible heart rate display (range 30 to 230 bpm).

United Metal Fabricators has a new line of stools. Each seat is covered with seamless, vacuum formed "Uniroyal Naugaform" which is easily cleaned and sulfide stain resistant. (It meets the Boston Fire Code.) The stool base is of rib-reinforced cast aluminum, designed to provide maximum strength. It is available in 4 or 5 leg styles and with or without a foot ring. Height adjustment depends on two systems, and a matching backrest support is optional.





**BROWN** THE BROWN PHARMACEUTICAL CO., INC.

2500 West Sixth Street, Los Angeles, CA 90057

For Full Prescribing Information, Please See PDR.



# **Android**<sup>®</sup> / 5<sup>Buccal</sup> / 10<sup>Oral</sup> / 25<sup>Oral</sup> mg / mg / mg

Methyltestosterone U.S.P. Tablets

# **ANDROID**<sup>®</sup> / F

Fluoxymesterone U.S.P. Tablets, 10<sub>mg</sub>



# FUTURE FILE

## Deaf Studies

The IUPUI Division of Continuing Studies, in co-sponsorship with IUPUI Disabled Student Services and the Indiana Association for the Deaf, offers a series of courses in the area of Deaf Studies.

These courses are designed for the helping professional who needs to gain understanding and knowledge of deafness, as well as for family members, co-workers and other individuals involved with the deaf.

For full information and enrollment, call the IUPUI Division of Continuing Studies at (317) 264-4501, or the Indiana Association for the Deaf, (317) 637-3947.

## Physician Impairment

"Impairment and Well-Being of Health Professionals: A Family Affair" is the title of the 7th AMA National Conference on the Impaired Physician, to be conducted April 10 to 13 at the Hilton Hotel & Towers, Chicago.

Room reservations at the Hilton should be made by March 19. The conference fee for AMA members is \$175.

For the program and details, contact the AMA at 535 N. Dearborn, Chicago 60610—(312) 645-5061.

## Gynecologic Cancer

The "National Conference on Gynecologic Cancer-1986" will be conducted Sept. 17-19 at the Atlanta Hilton, Atlanta, Ga. It is being organized by the American Cancer Society in cooperation with the American Academy of Family Physicians, the American College of Obstetricians and Gynecologists, the Oncology Nursing Society, and the Society of Gynecologic Oncologists.

Registration fee for physicians is \$200, \$100 for all other health professionals. There is no registration fee for students, residents and American Cancer Society fellows or career development awardees.

For more information, write to the ACS at 90 Park Ave., New York, N.Y. 10016.

## Family Medicine Issues

The 2nd Annual Conference on Controversies in Family Medicine: Who Pays When the "Safety Net" Fails? will be conducted at the Wisconsin Center in Madison May 1 and 2. The course is rated for 13 hours of Category 1 credit.

The correspondent is Sarah Aslakson, 456B WARF Bldg., 610 Walnut St., Madison, Wis. 53705—(608) 263-2856.

## St. Vincent Hospital CME

St. Vincent Hospital and Health Care Center, Indianapolis, announces the following CME programs:

March 21: Clinical Aspects of PTCA-II.

April 12: Spring Seminar in Dermatopathology.

May 2-3: 6th Annual Joseph C. Finneran Professorship, "Surgery for Aneurysms and Dissection of Ascending Aorta and Arch." Hans G. Borst, M.D., Hanover, W. Germany, distinguished professor.

For more information, contact Marilyn Soltermann, CME Coordinator—(317) 871-2345.

## Disturbed Adolescents

The Menninger Foundation will conduct a program on "Working with the Disturbed Adolescent." It will be held April 3 and 4 in Topeka, Kansas. The fee is \$190.

For a copy of the program and registration form, contact Jane Bolte, Box 829, Topeka, Kan. 66601—(913) 273-7500, ext. 5992.

The *Journal of the American Medical Association* publishes a list of CME courses for the United States twice yearly. The January listing features courses offered from March through August; the July listing features courses offered from September through February.

## Practice Management

The ISMA and the Resident Medical Society will co-sponsor a practice management workshop April 18 and 19 at Methodist Hospital of Indiana.

Staff from the AMA Dept. of Practice Management will discuss patient relations, accounting systems, personnel management, third-party payers and medical records. ISMA legal counsel will review corporate and malpractice law requirements in Indiana.

Registration fees have been discounted for ISMA members, their spouses and office staff. For more information, contact Carol Ann Cunningham at ISMA headquarters, Indianapolis.

## Pediatric Nuclear Medicine

"Clinical Problem Solving in Pediatric Nuclear Medicine" is the subject of a CME meeting of the Central Chapter of the Society of Nuclear Medicine, to be held Oct. 11-12 at the Westin O'Hare, Rosemont, Ill.

The course is accredited for 10.75 Category 1 hours. The fee for physician members is \$75, \$100 for non-members. Lesser fees will be charged technologists and trainees.

Write or phone the Society at 134 Lincoln Parkway, Crystal Lake, Ill. 60014—(815) 459-6884.

## Nuclear Medicine

"The Computer Revolution in Nuclear Medicine" is the subject of a meeting of the Central Chapter of the Society of Nuclear Medicine. It will be held April 3 to 5 at the Hyatt Regency, Milwaukee.

The meeting is approved for 18 Category 1 credit hours. The fee is \$125 for physician members, \$150 for physician non-members. Lesser rates will be charged for technologists, trainees, or for one-day attendance.

Information is available from the Society at 134 Lincoln Parkway, Crystal Lake, Ill. 60014—(815) 459-6884.



## Medical Directors Meeting

The American Academy of Medical Directors will conduct its 1986 National Conference of Health Care Leadership and Management May 12 to 16. It will be held at the Doubletree Hotel at Fisherman's Wharf in Monterey, Calif. CME credits — 18.

Contact Sherry Mason, 4830 W. Kennedy Blvd., Suite 648, Tampa, Fla. 33609 — (813) 873-2000.

## WorldMed '86

The program for WorldMed '86, an international health care congress to be held in St. Paul, Minn., May 7 to 9, may be requested by writing Continuing Medical Education, University of Minnesota, Box 202 Mayo Memorial Bldg., 420 Delaware St. SE, Minneapolis, Minn. 55455.

## Child Care Conference

The 21st Annual Indiana Multidisciplinary Child Care Conference will be held April 30 and May 1 at the Airport Hilton Hotel, Indianapolis.

For more information, contact Mary Ann Underwood, Riley Hospital for Children, Rm. 568, 702 Barnhill Drive, Indianapolis 46223 — (317) 264-7819.

## Ob/Gyn and Liability

The Second Annual Long Island Assembly of Obstetrics and Gynecology will be held May 29 and 30 at the Garden City Hotel, Garden City, N.Y. The impact of medical liability on Ob/Gyn will be the main topic.

The correspondent is Debra Mohr, CME Dept., Long Island Jewish Medical Center, New Hyde Park, N.Y. 11042 — (718) 470-8650.

## Pediatrics Lecture

The Kareem B. Minhas Memorial Lectureship will be held Friday, April 4, at 8 a.m. in the Second Floor Auditorium, Kosair Children's Hospital, Louisville.

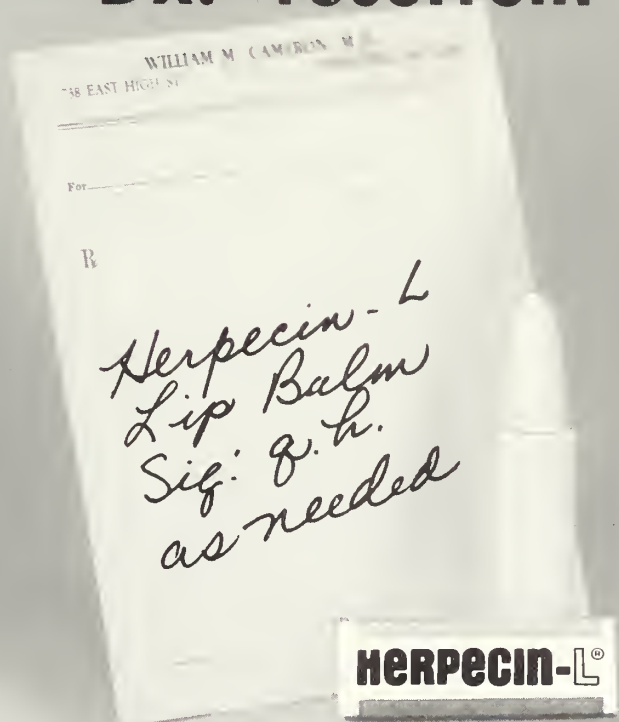
Jacqueline Noonan, M.D., chairman and professor of pediatrics at the University of Kentucky, will speak. The meeting, sponsored by the University of Louisville, qualifies for one hour of Category 1 credit.

## Seizure Disorders

"Current Aspects of Seizure Disorders" is the subject of a CME course to be conducted March 26 at the Holiday Inn, City Center, Chicago.

Contact University Office of CME, Rush University, 600 S. Paulina, Chicago 60612 — (312) 942-7095.

# Dx: recurrent herpes labialis



"HERPECIN-L is my **treatment of choice** for perioral herpes." GP, NY

"HERPECIN-L appears to actually **prevent** the blisters . . . used **soon enough**." DDS, MN

"HERPECIN-L® . . . a **conservative approach** with **low risk/high benefits**." MD, FL

"Used at **prodromal symptoms** . . . blisters **never formed** . . . remarkable." DH, MA

"(In clinical trials) . . . **response was dramatic**. **HERPECIN-L** . . . proven **far superior**." DDS, PA

"All patients claimed **shorter duration** . . . at **prodromal symptoms** . . . **HERPECIN-L averted** the attacks." MD, AK

OTC. See P.D.R. for information. For samples to make your own clinical evaluation, write: CAMPBELL LABORATORIES, INC., P.O. BOX 812-MD, FDR STATION, NEW YORK, N.Y. 10150

In Indiana HERPECIN-L is available at all *Hook, Osco, Peoples, Revco, Ribordy, SuperRx Drug Stores* and other select pharmacies.



# CANCER CORNER

WILLIAM M. DUGAN, JR., M.D.

Clinical Oncology Center, Methodist Hospital of Indiana

The Association of Community Cancer Centers (ACCC) has scheduled its 12th National Meeting for April 2-6, 1986 in Washington, D.C. The meeting will be held at the Hyatt Regency Washington on Capitol Hill. Once again, ACCC will jointly sponsor a one-day meeting on April 3, 1986 with the Association of American Cancer Institutes (AACI). For further information, call 301-984-9496.

Clinical Oncology Alert is a monthly update on current developments in cancer treatment and research. The newsletter's aim is to provide up-to-date information so you'll have immediate access to the most clinically relevant material available in four concisely written pages. Each month, a board of medical professionals selects and reviews four to six clinical studies of cancer treatment such as radiation therapy, chemotherapy, surgery, biological therapy, and combination therapy and provides interpretive clinical commentary on their effectiveness compared with other treatments, availability to practitioners, and other vital considerations. For further information or to order this monthly newsletter, contact Clinical Oncology Alert, Dept. 9000, 67 Peachtree Drive, NE, Atlanta, Ga.

Oncology Core Course: 1986—A Fundamental Cancer Nursing Course, April 14-18, 1986 is sponsored by the Lehigh Valley Hospital Center and the Allentown Hospital HealthEast Components, Allentown, Pa. Inquiries: Oncology Nurse Educator, Comprehensive Community Cancer Center, The Allentown Hospital, 17th and Chew Sts., Allentown, Pa. 18102—(215) 778-2582.

1st Oncology Nursing certification examination will be on April 30, 1986, in conjunction with the 11th Annual Con-

gress of the Oncology Nursing Society at the Westin Bonaventure Hotel in Los Angeles. To take the exam, RNs must hold a current RN license, have three years nursing experience (minimum of 1,000 hours). Oncology nursing experience may be in the areas of clinical practice, education, research, or administration. Certification examination items are based on core curriculum developed by ONS's core curriculum task force. The exam is aimed at testing general oncology nursing knowledge base of the professional base. Fees: \$150 for ONS members, \$200 for non-members. For further information, contact Oncology Nursing Certification Corp., 3111 Banksville Rd., Suite 200, Pittsburgh, Pa. 15216, or call (412) 344-3899.

New Publication (Free): "What It Is That I Have, Don't Want, Didn't Ask For, Can't Give Back, and How I Feel About it"; illustrated booklet for teens with leukemia, Hodgkin's disease and other forms of cancer. Contact the Leukemia Society of America, 733 3rd Ave., New York, N.Y. 10017—(212) 573-8484.

The Association of Community Cancer Centers (ACCC), in the decade since its founding, has drawn together the leading community and university institutions involved in the provision of care to U.S. cancer patients.

ACCC member institutions (@ 4% of all U.S. hospitals) now account for the management of *one of every four new cancer cases in the US*. These institutions span the range from hospitals under 300 beds to 1,000+ beds, from less than 300 new cancer cases to more than 3,000 per year. The commonality of these institutions is their special interest in the cancer patient and in programs that aim to meet the special needs of cancer patients and

their families. ACCC institutions tend to be involved in formal clinical trials. One index of this activity is the high percentage of NCI-funded Community Clinical Oncology Programs (CCOPs) that are members of ACCC. Another index is a recent survey of ACCC institutions involved in clinical trials.

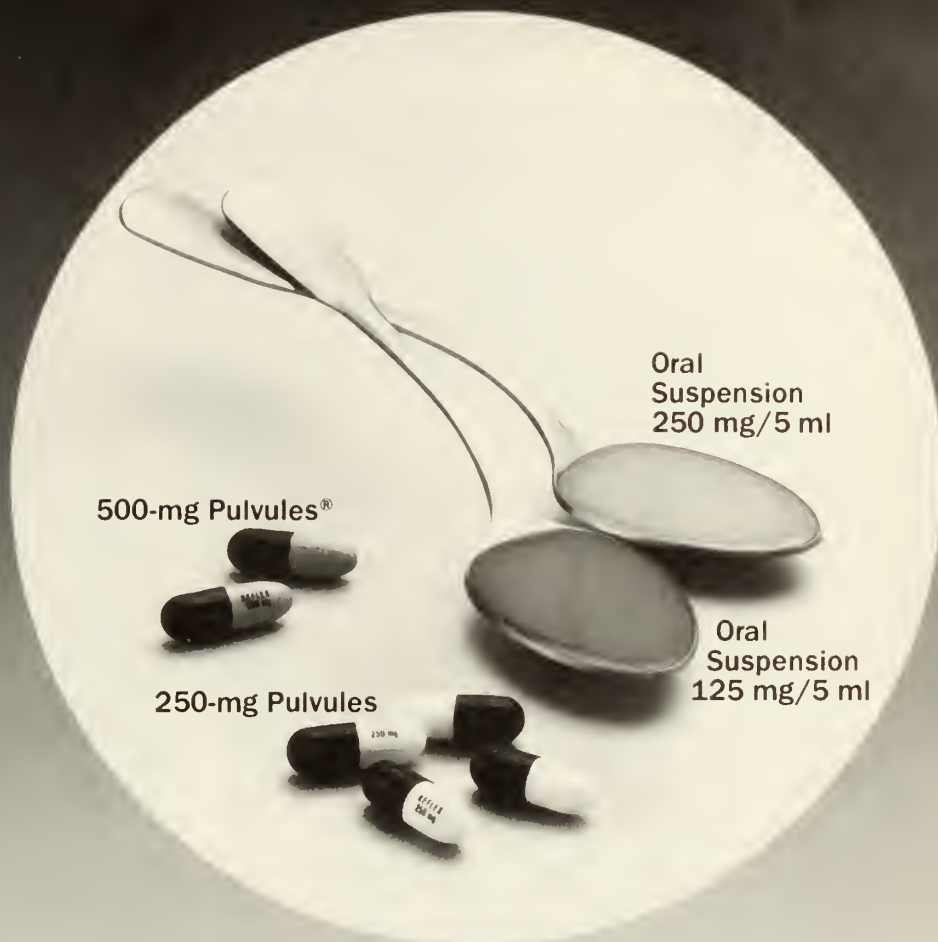
More than 80% of ACCC institutions have a dedicated oncology unit, with little variation based on the size of the institution. There is a high degree of overlap with ACCC institutions and the American College of Surgeons (ACoS). Most ACCC member organizations are also ACoS-approved cancer programs. There is also a high degree of similarity in the geographic distribution of cancer patients, of ACoS-approved institutions, of ACCC institutions, of CCOP programs and cooperative group research programs.

Individual (General) membership is an excellent way to learn about the Association and about whether your institution can benefit from Delegate membership. General members receive a discounted rate to the ACCC national meetings and are listed in Community Cancer Programs in the U.S. by state.

The American Cancer Society has tentative dates set for its "I Can Cope" series. The next class is scheduled for March 4 through March 20, 1986. Classes meet on Tuesdays and Thursdays. For further information on location, scheduling, etc., call Melody Dian, American Cancer Society, 317-923-2225.

The I Can Cope education series is intended to give patients and families the opportunity to acquire information about their disease, diagnostic procedures, treatment, and self-care management. The importance of attitude is explored and many resources available in the community are identified.

# Easy To Take



**Keflex<sup>®</sup>**  
**cephalexin**

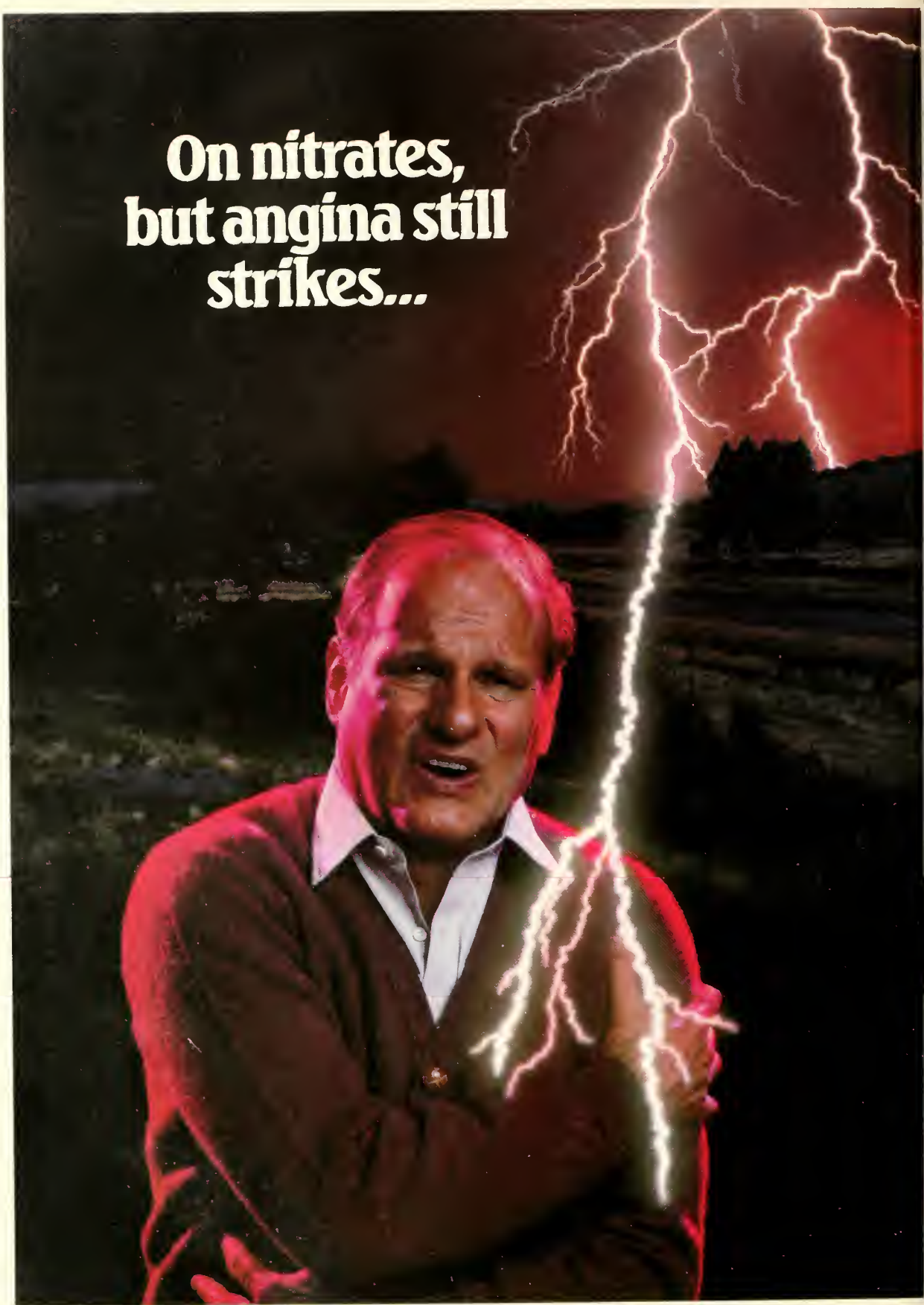
Additional information  
available to the profession  
on request.



420113

Dista Products Company  
Division of Eli Lilly and Company  
Indianapolis, Indiana 46285  
Mfd. by Eli Lilly Industries, Inc.  
Carolina, Puerto Rico 00630

**On nitrates,  
but angina still  
strikes...**





# After a nitrate, add ISOPTIN<sup>®</sup> (verapamil HCl/Knoll)

To protect your patients, as well as their quality of life,  
add Isoptin instead of a beta blocker.

**F**irst, Isoptin not only reduces myocardial oxygen demand by reducing peripheral resistance, but also increases coronary perfusion by preventing coronary vasospasm and dilating coronary arteries — both normal and stenotic. These are antianginal actions that no beta blocker can provide.

Second, Isoptin spares patients the beta-blocker side effects that may compromise the quality of life.

With Isoptin, fatigue, bradycardia and mental depression are rare. Unlike beta blockers, Isoptin can safely be given to patients with asthma, COPD, diabetes or peripheral vascular disease. Serious adverse reactions with Isoptin are rare at recommended doses; the single most common side effect is constipation (6.3%).

Cardiovascular contraindications to the use of Isoptin are similar to those of beta blockers: severe left ventricular dysfunction, hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no artificial pacemaker is present) and second- or third-degree AV block.

So, the next time a nitrate is not enough, add Isoptin... for more comprehensive antianginal protection without side effects which may cramp an active life style.



**ISOPTIN. Added  
antianginal protection  
without beta-blocker  
side effects.**

# ISOPTIN® (verapamil HCl/Knoll)

80 mg and 120 mg scored, film-coated tablets

**Contraindications:** Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure < 90 mm Hg) or cardiogenic shock, sick sinus syndrome (except in patients with a functioning artificial ventricular pacemaker), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction < 30% or moderate to severe symptoms of cardiac failure) and in patients with any degree of ventricular dysfunction if they are receiving a beta blocker. (See *Precautions*.) Patients with milder ventricular dysfunction should, if possible, be controlled with optimum doses of digitalis and/or diuretics before ISOPTIN is used. (Note interactions with digoxin under *Precautions*.) ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild and controlled by decrease in ISOPTIN dose). Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Such elevations may disappear even with continued treatment, however, four cases of hepatocellular injury by verapamil have been proven by rechallenge. Periodic monitoring of liver function is prudent during verapamil therapy. Patients with atrial flutter or fibrillation and an accessory AV pathway (e.g. W-P-W or L-G-L syndromes) may develop increased antegrade conduction across the aberrant pathway bypassing the AV node, producing a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion, which has been used safely and effectively after ISOPTIN. Because of verapamil's effect on AV conduction and the SA node, 1° AV block and transient bradycardia may occur. High grade block, however, has been infrequently observed. Marked 1° or progressive 2° or 3° AV block requires a dosage reduction or, rarely, discontinuation and institution of appropriate therapy depending upon the clinical situation. Patients with hypertrophic cardiomyopathy (IHSS) received verapamil in doses up to 720 mg/day. It must be appreciated that this group of patients had a serious disease with a high mortality rate and that most were refractory or intolerant to propranolol. A variety of serious adverse effects were seen in this group of patients including sinus bradycardia, 2° AV block, sinus arrest, pulmonary edema and/or severe hypotension. Most adverse effects responded well to dose reduction and only rarely was verapamil discontinued. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacologic effects. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, close surveillance of vital signs and clinical status should be carried out. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patients should be carefully monitored to avoid over- or under-digitalization. ISOPTIN may have an additive effect on lowering blood pressure in patients receiving oral antihypertensive agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Clinical experience with the concomitant use of ISOPTIN and short- and long-acting nitrates suggest beneficial interaction without undesirable drug interactions. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. **Pregnancy Category C:** There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia: HR < 50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%), elevations of liver enzymes have been reported. (See *Warnings*.) The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: ecchymosis, bruising, gynecomastia, psychotic symptoms, confusion, paresthesia, insomnia, somnolence, equilibrium disorder, blurred vision, syncope, muscle cramp, shakiness, claudication, hair loss, macules, spotty menstruation. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in round, scored, film-coated tablets containing either 80 mg or 120 mg of verapamil hydrochloride and embossed with "ISOPTIN 80" or "ISOPTIN 120" on one side and with "KNOLL" on the reverse side. Revised August, 1984 2385



**KNOLL PHARMACEUTICAL COMPANY**  
30 NORTH JEFFERSON ROAD, WHIPPANY, NEW JERSEY 07981

2406

## EMPLOYEES APPRECIATE THE PAYROLL SAVINGS PLAN.

JUST ASK THE  
PEOPLE AT THE  
BOEING COMPANY.

"My folks gave me a Bond for my birthday every year. Now I can do the same for my kids."

—Vaughn Hale



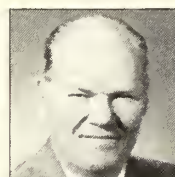
"It's certainly a painless way to save. The money comes directly out of my paycheck every two weeks."

—Florence Perry



"This is one way I can support my government and save at the same time."

—Douglas Scribner



U.S. Savings Bonds now offer higher variable interest rates and a guaranteed return. Your employees will appreciate that. They'll also appreciate your giving them the easiest, surest way to save.

For more information, write to: Steven R. Mead, Executive Director, U.S. Savings Bonds Division, Department of the Treasury, Washington, DC 20226.



**U.S. SAVINGS BONDS**  
Paying Better Than Ever

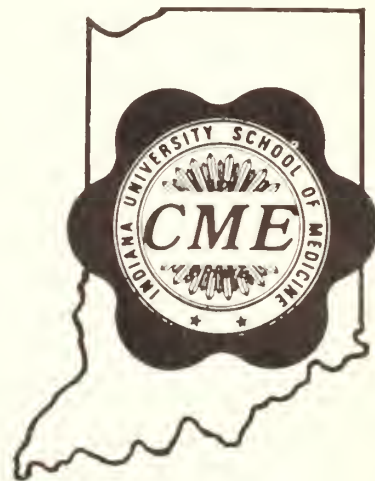
A public service of this publication.



INDIANA MEDICINE offers its readers a Continuing Medical Education series of articles prepared by the faculty of the Indiana University School of Medicine. The program is coordinated and supported by a grant from the school's Division of Continuing Medical Education.

As an organization accredited for continuing medical education, the Indiana University School of Medicine certifies that this CME activity meets the criteria for one credit hour in Category 1 for the Physician's Recognition Award of the American Medical Association, provided it is used and completed as designated.

To obtain Category 1 credit for this month's article, complete the quiz on page 269.



## Aortic Surgery: A Short Synopsis

---

MICHAEL C. DALSING, M.D.  
JOHN L. GLOVER, M.D.  
M. KATHLEEN REILLY, M.D.  
Indianapolis

---

**T**HE MANAGEMENT of patients considered for aortic surgery requires fundamental knowledge in four areas: (1) diagnosis and indications for surgical correction, (2) risk factors and their management, (3) proper intra-operative care, and (4) awareness of postoperative complications. Such knowledge has steadily decreased the morbidity and mortality of aortic surgery in these often elderly or poor risk patients.

### Diagnosis and Surgical Indications

Aortic operations are most commonly performed for occlusive and/or aneurysmal disease. The logical evaluation of these patients consists of four steps: history, physical examination, noninvasive vascular studies, and angiography.

The common denominator in occlusive vascular disease is a reduction in blood flow, resulting in local ischemia. The blood flow can be insufficient only during exercise, being expressed as in-

termittent claudication in the lower extremity. In aortoiliac occlusive disease, the pain is often located in the thigh or buttock but may be noted in the calf musculature. When the metabolic demands of the tissue can no longer be met even with maximal peripheral vasodilation, limb-threatening ischemia becomes evident. Limb-threatening ischemia presents as pain in the foot at rest, especially with foot elevation (i.e., lying down), superficial ulcerations, or gangrene. If the hypogastric vasculature is involved, impotence may be an associated feature.

Aneurysmal disease is an abnormal dilatation with thinning of the aortic wall which predisposes to rupture. Emboli of plaque materials or thrombosis of the aorta is a less frequent complication of aneurysms than is rupture.

A diminished or absent femoral pulse suggests aortoiliac occlusive disease on physical examination. A bruit in the groin may be present. Three circumstances which may cause

---

From the Dept. of Surgery, Indiana University School of Medicine, Indianapolis.

Correspondence: Michael C. Dalsing, M.D., Dept. of Surgery, Wishard Memorial Hospital, 1001 W. 10th St., Indianapolis, Ind. 46202.



confusion should be mentioned: (1) the presence of a palpable femoral pulse on routine examination, (2) the presence of normal distal pulses with or without a diminished femoral pulse, and (3) the case of dependent rubor.

A normal femoral pulse on routine examination can be present in the patient with claudication simply because the stenosis is not hemodynamically significant at resting flow rates.<sup>1</sup> Such lesions can be uncovered by increasing the flow by exercise, pharmacologic vasodilatation, or postocclusive reactive hyperemia.<sup>2</sup> A similar situation is noted in the case of peripheral pulses which feel normal as a result of an extensive collateral network but which are lost at times of increased flow demand and peripheral vasodilatation.<sup>3</sup> These situations highlight the need for careful examination of all pulses at rest and after a period of exercise.

In general, the foot appears pale and cool in the face of moderate to severe occlusive vascular disease, especially after exercise or elevation. With severe disease, however, the foot may have a congested and deep reddish hue in the dependent position; this condition is called dependent rubor and should not be mistaken for adequate blood flow. It results from maximal cutaneous vasodilatation and possibly the loss of microvascular autoregulation associated with severe ischemia.<sup>4</sup> Lack of pulses in such a foot, and marked pallor associated with elevation should suggest the proper diagnosis.

Noninvasive vascular examinations confirm the clinical impression in a quantitative manner. The lower extremity arterial Doppler exam with supplemental exercise stress testing is the most common study to evaluate occlusive vascular disease. With blood pressure cuffs placed on the upper thigh, above the knee, and above the ankle, systolic blood pressure measurements from the superficial femoral, popliteal, as well as the posterior tibial and dorsalis pedis arteries are taken using the Doppler probe. The ankle

systolic pressure is compared to the brachial systolic pressure to obtain what is called the ankle/brachial (A/B) ratio. Smaller cuffs can be used to obtain the penile or digital pressures. Expected normal values, as well as some significant abnormal values are shown in *Table 1*. A hemodynamically significant stenosis is also suggested by progressive loss of the triphasic component and a widening of the Doppler wave pattern. If claudication is the complaint, exercise to the point of pain should differentiate between a vascular or nonvascular etiology.<sup>2</sup> These studies are invaluable for long-term follow-up and for postoperative evaluation.

The decision to operate on patients with occlusive aortic disease depends on the severity of symptoms. Approximately 20% of patients with intermittent claudication have symptoms severe enough to compromise their livelihood.<sup>5</sup> These patients, as well as those patients with limb-threatening ischemia, should be scheduled for vascular reconstruction. Occasionally, a patent, but very irregular, aortic surface is the source of distal emboli seen clinically as the "blue toe syndrome": reconstruction is required to prevent additional embolic events.<sup>6</sup> Only patients considered for surgery should have diagnostic angiography, thereby avoiding possible complications. Simultaneous or subsequent femoral artery pressures before and after papaverine vasodilatation are helpful in confirming hemodynamic iliac occlusive disease in the face of multi-level disease.<sup>7</sup>

Aortic aneurysmal disease is often asymptomatic (80%) but may be present as an expanding aneurysm (symptoms without rupture) or rupture.<sup>8</sup> Asymptomatic lesions may be found initially on physical examination as a pulsatile abdominal mass or be suspected by calcifications seen on radiologic examination for other complaints. Expanding aneurysms cause pain, often severe and constant, in the back, mid-abdomen, or pelvis, with referral pain to the groin or thigh. Such

pain is not associated with systemic symptoms—hypotension, decreasing hemoglobin, tachycardia, etc., which distinguishes this entity from a ruptured aneurysm. In a small percentage of cases, the expanding aneurysm may cause symptoms by compression or erosion of local structures such as a vertebra, ureter, or the vena cava. A ruptured aneurysm is associated with pain and signs of immediate or delayed hemorrhage. Occasionally, the aneurysm may rupture into a viscus or into the vena cava and must be considered in the diagnosis of gastrointestinal bleeding or congestive heart failure.<sup>8</sup>

Confirmational studies in patients with an asymptomatic aneurysm are abdominal sonography or, in the face of an inadequate examination, an abdominal Computed Tomography (CT) study. Angiography is useful in patients considered for operative correction to demonstrate renal artery involvement, inferior mesenteric artery patency, or other anatomic peculiarities.<sup>9</sup> The lower extremity Doppler exam is helpful both in evaluating concomitant occlusive disease and in the postoperative evaluation of possible complications.

Those patients with a ruptured aneurysm are a surgical emergency and require operation without delay.<sup>10</sup> Asymptomatic abdominal aortic aneurysms greater than 4 cm in diameter on ultrasound evaluation (6 cm on physical examination) should be replaced. There is a 40% long-term incidence of rupture in these patients, the majority occurring in the first two years.<sup>11</sup> Even though larger aneurysms have a greater risk of rupture, small aneurysms do rupture, and surgical correction can demonstrate improvement in patient survival.<sup>12</sup> Based on optimal modern surgical care and the above considerations, many surgeons believe that operation is indicated when the lesion's diameter is twice the size of the normal uninvolved aorta.<sup>13</sup>

These indications for aortic operations could be strictly followed were

it not for associated risk factors which increase the operative morbidity and mortality. These factors must be recognized and controlled prior to surgical intervention.

#### Risk Factors

Myocardial infarction (MI) is the major cause of death following aortic surgery, accounting for greater than 50% of operative mortality.<sup>14</sup> The major risk factors for postoperative cardiac morbidity and mortality are tabulated most succinctly by Goldman and associates.<sup>15</sup> Nine variables were found useful in determining a cardiac risk index. The two most significant factors were overt signs of congestive heart failure and an MI in the previous six months. If only these two events were present, the patient was considered in the Class III group and was at high risk for postoperative morbidity or mortality. Based on their scheme, elective surgery has an acceptable risk (2%) for those in Class I and Class II. More stringent operative indications must be present in the Class III and Class IV patients. A delay to allow optimization of the medical condition may lower the risk for surgery.<sup>16</sup> The need for preoperative coronary angiography is controversial, especially in the asymptomatic patient. Many surgeons have become concerned about cardiac risk factors and have routinely obtained coronary angiography. Repair of significant coronary artery disease has been rewarded with good early results.<sup>17</sup>

Pulmonary complications comprise another common area of postoperative morbidity and mortality in aortic surgery. Age greater than 70, obesity, productive cough, heavy smoking, previous pulmonary disease, and upper abdominal incisions are common pulmonary risk factors.<sup>18</sup> Even patients with prohibitive pulmonary functions, however, can be guided safely through an abdominal aortic procedure.<sup>19</sup> Most surgeons suggest a regimen of cessation from smoking for two to four weeks, incentive spirometry, bron-

TABLE 1 Normal Values for Doppler Arterial Examination*	
Ankle systolic pressure	> brachial systolic pressure (<40 mm Hg = limb threatening ischemia)
Ankle pressure index (ankle brachial ratio)	>1.0
Thigh systolic pressure high (narrow cuff)	30-40 mm Hg > brachial systolic pressure
low (wide cuff)	20-30 mm Hg > brachial systolic pressure
Thigh pressure index	>1.1
Pressure gradients	<30 mm Hg between adjacent sites
Toe systolic pressure index	0.7 ± 0.19 (0.35 ± 0.15 = claudication) (0.11 ± 0.10 = rest pain)
Penile pressure index	>0.75 (0.60 = vascular impotence)
Finger systolic pressure index	>0.95
Treadmill exercise test (2 mph, 12% grade)	Elevated or no decrease of ankle pressure after 5 minutes walking time
*Reproduced with permission from Pearce, W.H., Yao, J.S.T., and Bergan, J.D.: Noninvasive Vascular Diagnostic Testing, in Ravitch, M.M., et al. (eds): CURRENT PROBLEMS IN SURGERY. Copyright © 1983 by Year Book Medical Publishers, Inc., Chicago.	

chodilators, heated mist treatments, and intensive chest physiotherapy.<sup>18</sup> Antibiotics, hydration, and theophylline may be required.

Aortoiliac surgery is associated with a perioperative stroke rate of approximately 1%.<sup>14</sup> Stroke is a devastating complication for those patients who have undergone aortic surgery to save job or limb. The high risk patient has, therefore, been sought. Some points are clear. Preoperative ischemic events may place the patients requiring aortic surgery at a higher risk for perioperative stroke.<sup>20</sup> The mere presence of a bruit in the neck does not correlate well with postoperative stroke. Asymptomatic carotid disease does appear to place the patient at risk for later neurologic events.<sup>21</sup> With these facts in mind, it seems reasonable to approach the problem of carotid

disease in the patient about to undergo major surgery in the following manner. If aortic disease is the most threatening, a conservative approach to carotid disease may be taken.<sup>20,21</sup> Otherwise, carotid disease severe enough to be corrected on its own merit should be corrected prior to aortic surgery. This protects the patient at risk for stroke (early or late) and may decrease the perioperative risk of stroke associated with aortic surgery.<sup>22,23</sup>

All patients, especially those with prior renal insufficiency, should be adequately hydrated prior to surgery or angiography to decrease the possibility of acute renal failure.<sup>24</sup> Patients with end-stage renal disease should not be denied operative therapy for aortic disease when indicated. Morbidity and mortality can be acceptable with modern day management.<sup>25</sup>



Recent analysis of vascular surgery patients suggests that inadequate preoperative nutrition increases morbidity, possibly even having an effect on graft thrombosis.<sup>26,27</sup> Based on a more extensive experience in the general surgical patient population, morbidity and mortality may be decreased by adequate, presurgical, nutritional restoration.<sup>28</sup>

Advanced age can have an adverse effect on the cardiac risk for surgery.<sup>15</sup> However, even the octogenarian can undergo an aortic procedure with an acceptable overall mortality of less than 5% with adequate preoperative care.<sup>29</sup> Age alone should not prevent the patient from being considered for appropriate surgical care.

Diabetes is a problem seen in approximately 10% of patients with aortoiliac occlusive disease.<sup>30</sup> Even though early operative mortality is not affected by the presence of diabetes, the patient's course can be complicated by problems with wound healing, infection, and hyperglycemic complications. Perioperative control of diabetes seems to improve the patient's risk.<sup>31</sup>

Hypertension of less than 110 torr diastolic does not appear to place the patient at an increased surgical risk.<sup>32</sup> Severe, uncontrolled hypertension does pose a high surgical risk and must be controlled before operation is undertaken.<sup>33</sup> Antihypertensive medications are no longer stopped prior to surgery, since hypertensive control is preferable to any apparent side effect. Surgically correctable forms of hypertension, such as pheochromocytoma or renal artery stenosis, must be considered preoperatively to be treated prior to or simultaneously with aortic reconstruction.

#### Intraoperative Care

Routine operative room care includes general anesthesia, mechanical ventilation, arterial monitoring, urinary catheterization, nasogastric intubation and core temperature monitoring. The major single factor reducing morbidity and mortality is

adequate volume replacement both preoperatively and intraoperatively. This can blunt the effect of aortic cross clamping and virtually eliminate declamping hypotension.<sup>34</sup> Swan-Ganz catheterization is becoming routine intraoperatively. Volume replacement, vasopressors or vasodilators, and a skillful juggling of all three, make aortic surgery possible in many patients who were not considered for operation just 10 years ago.

A general plan regarding the extent of operation is formulated preoperatively based on hemodynamic tests and angiography. Other decisions must be made based on intraoperative findings. Infection or malignancy in the abdomen will in some cases require cancellation of an elective vascular procedure while dealing with the more pressing problem.

Rough handling of the aorta and iliac arteries is to be avoided, especially when angiography has demonstrated patent vessels with irregular friable-looking plaque. Distal embolization of such material can result in a spectrum of ischemic damage including petechial changes on the dorsum of the foot to extensive gangrene requiring hip disarticulation.

After the retroperitoneum has been opened, the aorta and iliac vessels are palpated and a primary operative method is planned. If aortoiliac occlusive disease is the only problem, either endarterectomy or bypass grafting may be appropriate. With localized atherosclerotic disease, aortoiliac endarterectomy may be applicable. However, even in experienced hands, endarterectomy in the aortoiliac system requires extensive dissection and the possibility of considerable blood loss. In current practice, bypass grafting has become the routine procedure.

Synthetic material, generally a Dacron woven or knitted fabric, is most frequently used for aortofemoral bypass. Preclotting of the graft is performed prior to heparinization in knitted grafts. Prior to clamping the aorta

and iliac vessels, heparin is given intravenously in the dose of approximately 1 mg (100 units) per kilogram of body weight. Additional heparin is given if graft placement takes more than two hours. Prior to any aortic cross clamping, many surgeons give Mannitol or Lasix to increase urine output and maintain renal perfusion.<sup>35</sup> Pharmacologically induced diuresis, however, should never be substituted for adequate hydration.

A proximal anastomosis in occlusive disease is placed as high on the infrarenal aorta as possible without compromising renal blood flow. An end-to-end anastomosis between the aorta and graft gives the most direct route for blood flow and is generally preferred.<sup>36</sup> However, an end-to-side anastomosis also works well in late follow-up and should be used when external iliac lesions would prevent retrograde flow from the femoral anastomosis to supply the pelvis.<sup>36</sup> This type of anastomosis may also be used to maintain flow to a widely patent inferior mesenteric artery. The distal anastomosis can be placed at the common iliac bifurcation, thereby keeping the bypass short and avoiding groin incisions. If atherosclerotic disease involves the external iliac arteries, bypass must be taken to the femoral arteries. Graft tunneling is performed along the native vessels in the retroperitoneum, exiting under the inguinal ligament to be fashioned to the femoral vessels.

In the case of abdominal aortic aneurysms, proximal and distal control is obtained and the aneurysm is opened. A few lumbar arteries are controlled by oversewing from within. Fortunately, the clamp can be placed below the renal vessels in 90 to 95% of the cases. However, if the clamp must be placed above the renal arteries for adequate control, the kidneys can tolerate this warm ischemic time of five to 10 minutes quite well. A tube graft replacement of the aorta may be accomplished if there is no iliac occlusive or aneurysmal disease. However, in the



face of iliac disease, the graft is bifurcated and placed distal to the iliac disease.

Appropriate flushing of limb grafts with short bursts of arterial flow removes atheromatous debris and prevents distal limb embolization. The proximal clamp is never released so swiftly as to cause a systolic blood pressure drop of more than 20%. The continuous monitoring of blood pressure afforded by the arterial line determines the rate of the declamping. If hypotension occurs, the graft can be occluded temporarily while additional fluids are given. The incidence of significant hypotension is almost negligible if fluid replacement has been adequate during the procedure and the clamp removal is done carefully.<sup>34</sup> Vessels beyond the distal anastomosis are checked for a palpable pulse and good Doppler signals. Anything less than vigorous flow is technical in origin and must be corrected immediately. The possibilities include a graft twisted in the retroperitoneal tunnel, misplaced sutures, occluding flaps or plaque, residual stenosis above the proximal anastomoses, or inadequate distal runoff into the legs. After mechanical hemostasis, intraoperative bleeding may be controlled with fresh frozen plasma, platelet transfusions, or protamine. These latter measures are seldom required. In fact, we generally do not reverse the heparin which was given during the operation.

In uncomplicated cases, an antibiotic covering gram positive organisms is given at the time of induction and repeated at intervals equivalent to two half-lives of the drug throughout the procedure. Prophylactic antibiotic coverage does decrease the number of infections seen in vascular surgical procedures.<sup>37</sup> They are often discontinued at 24 hours postoperatively if all invasive lines have been removed.

Closure of the retroperitoneum over the synthetic graft must be accomplished to prevent the rigid graft from coming in contact with the bowel wall. Simply reapproximating the original

incision would place the duodenum in direct contact with the graft. This situation can lead to duodenal erosion and an aortoenteric fistula with massive GI bleeding. The endocervical fascia that lines the abdominal cavity or a segment of omentum must be used to separate the bowel from the graft placed for occlusive disease. In the case of aneurysmal repair, the residual aneurysmal sac is closed over the bypass.

Groin incisions are closed in layers and care is taken to secure any lymphatic leakage. After closure of the wounds, the drapes are removed and distal pulses and perfusion of the feet are immediately checked. If any deterioration is found, the patient is repped, draped, and the problem attended to immediately.

A few situations require special surgical consideration. The inferior mesenteric artery is often disconnected from aortic blood flow in these operations. The artery must be reimplanted into the aortic graft if colonic perfusion is poor.<sup>38</sup> When abdominal aortic aneurysms involve the renal, superior mesenteric artery, and celiac vessels, the complexity and risk of the operation are increased several fold. Reimplantation of the involved vessels is required and ischemic damage to the end organs may occur. Lastly, a ruptured abdominal aortic aneurysm places all factors into an emergency time frame in the face of hemorrhagic shock. In contrast to elective repair, emergency aneurysmal surgical care has a mortality of approximately 50%.<sup>39</sup>

#### Postoperative Care

When the patient returns to the surgical intensive care unit, the patient is often intubated, has an arterial line in place, and either a central venous line or Swan-Ganz catheter for volume monitoring. A Foley catheter helps monitor the urine volume which is a good indicator of organ perfusion. A nasogastric tube decompresses the stomach and removes air and fluids not

handled well by the gastrointestinal tract in its present state of ileus. EKG monitoring is routine. With the addition of the lower extremity Doppler study, a clear picture of the well being of the patient, as well as the status of the aortic operation, is evident.

Aortic surgical stress, coupled with the high incidence of coronary artery disease in this population, may result in cardiac problems. A MI occurring at the time of aortic reconstruction is often hard to diagnose because the pain of ischemia may be hidden by the postoperative discomforts of the patient. Therefore, diagnosis may rely almost entirely on EKG and laboratory values such as the MB fraction of creatine phosphokinase. Likewise, the major complications of MI (arrhythmia and congestive heart failure) are harder to manage in this early postoperative period. Arrhythmias of any type should be corrected quickly with appropriate drugs, pacing wire, or cardioversion. Metabolic aberrations must be eliminated. Those drugs which predispose to arrhythmia must be carefully monitored (i.e., digoxin, quinidine, and aminophylline). Congestive heart failure management is complicated by the several liters of crystalloid and blood which are sometimes required for hemodynamic stability. Often, only the use of the Swan-Ganz catheter to assess cardiac output, pulmonary artery wedge pressures, and systemic vascular resistance can determine the need for fluids, diuretics, vasodilators, vasopressors, or inotropic drugs.

Patients undergoing general anesthesia have derangements of respiratory function. There is a decrease in total lung compliance, total volume and functional residual capacity, as well as an increase in the closing volume.<sup>40</sup> Thick secretions and a decrease in compliance result in progressive atelectasis. Early ambulation, as well as appropriate treatment with incentive spirometry, bronchodilators, percussion and postural drainage are often required. Short-term mechanical ventila-

tion may be required in patients with minimal pulmonary reserve. With the development of infections or the adult respiratory distress syndrome, prolonged ventilatory support may be required.

Renal failure may occur after aortic operations. An array of etiologies include embolic material thrown into the renal vessels to toxic-metabolic factors. It may present as oliguric or nonoliguric renal failure. Prerenal oliguric failure will resolve with proper fluid replacement. Acute oliguric renal failure may be improved by diuretics early in its course.<sup>41</sup> Renal artery thrombosis may be suggested by renal scan or angiography. However, once renal failure is established, fluid restriction and electrolyte management become most important. Early dialysis may be very useful in view of postoperative ileus. Oliguria may also be caused by post-renal problems, such as an occluded Foley catheter or damage to the ureter or bladder. Ultrasound, cystogram, or intravenous pyelogram can demonstrate the injury. Treatment may require surgical relief from mechanical obstruction or injury while simply changing the Foley catheter may be the only treatment required.<sup>42</sup>

Significant bleeding may occur in one to four percent of aortic operations.<sup>43</sup> This may occur at the suture lines or in areas of retroperitoneal dissection. In the groin, an expanding mass or bleeding through skin incisions can easily determine the presence of excessive bleeding. Retroperitoneal bleeding, however, is more difficult to visualize and indirect methods may be needed for diagnosis. With a mild hidden hemorrhage, the patient may demonstrate signs of low blood volume and decreased urine output with slowly decreasing hemoglobin. Anticoagulation may be present and correctable with vitamin K, fresh-frozen plasma, platelets, or protamine. A nasogastric tube may suggest gastritis or ulceration which can be handled locally by irrigations and antacids. More signifi-

cant hemorrhage requires mechanical control by surgical reoperation.

Lower limb ischemia may result from thrombosis of a bypass limb, distal arterial thrombosis, or embolic debris washed into the leg during the surgical procedure.<sup>43</sup> Surgical correction of the thrombosed limb should restore the femoral pulse and improve the Doppler exam. Distal bypass may be required with acute distal arterial thrombosis. Fogarty catheter thrombolectomy for embolic debris washed into the leg is beneficial and, as in all situations of impending limb loss, early correction is associated with better long-term results.<sup>44</sup> Postoperatively, failure is suggested by the Doppler exam when the A/B ratio does not approach 1.0 in the absence of distal occlusive disease or lacks improvement by at least 0.15 in its presence.<sup>20</sup> If this does not occur over a period of several hours, or if the ankle pressure is actually decreased, a failure must be considered.

Clinically evident ischemic colitis occurs in approximately 2% of patients following aortic surgery with a 50% mortality.<sup>14,45</sup> Small bowel ischemia is only about one-tenth as frequent.<sup>45</sup> Intraoperative prevention is the best method of treatment but a high index of suspicion is the best guard against a delay in diagnosis postoperatively. Diarrhea appears to be the most common finding.<sup>46</sup> Other findings can be abnormal tenderness in the left lower quadrant, prolonged ileus, fever, sepsis, and shock. Leukocytosis and metabolic acidosis may be seen. Essentially, any abnormal abdominal findings should prompt colonic exam to 40 cm to rule out the process of ischemic colitis.<sup>46</sup> Conservative treatment is acceptable with mucosal or mild muscular involvement. Clinical deterioration, such as increasing abdominal pain, leukocytosis, fever or obvious transmural colonic involvement requires resection of compromised bowel avoiding a primary anastomosis.<sup>46</sup> Protection of the synthetic graft is accomplished by the use of antibiotics and by avoiding violation

of the retroperitoneum.

Spinal cord ischemia is a very rare complication noted in only 0.25% of one large series of aortic reconstructions.<sup>47</sup> The underlying anatomic factor is the main artery to the spinal cord. It originates most commonly in the thoracic aorta but may occur as low as the lumbar region of the abdominal aorta. Vessel interruption, hypotension, or emboli may result in spinal cord ischemia with lower extremity paraplegia or more rarely paraparesis, with or without bowel and bladder paralysis. Treatment appears to be limited to supportive care with rehabilitation to reduce the neurologic deficit.<sup>47</sup>

Infection is one of the most dreaded complications of vascular surgery. It may occur in 2% of aortic operations, early or late, with a very high mortality.<sup>48</sup> Gram positive as well as gram negative organisms may be involved. Early graft infections may occur especially if a wound infection is present. Local wound infections should be drained, packed open, and treated with systemic antibiotics. Draining all infections may localize the process without exposing the graft itself. With graft involvement, the problem becomes more critical.<sup>49</sup> Intra-abdominal graft infections may be considered in the presence of unexplained fevers, leukocytosis, or prolonged ileus.<sup>48</sup> The CT scan may be helpful in making the diagnosis. Entire removal of the infected graft, debridement and drainage of the surrounding tissues, including native artery, antibiotic coverage, and extra anatomic bypass, are the general principles of therapy.<sup>48</sup>

Aortic revascularization may improve sexual function if impotence has a vasculogenic origin.<sup>50</sup> However, this is not always the case—vascular bypass or autonomic nerve damage can actually result in worsened function after aortic surgery.<sup>50,51</sup> It is essential for the patient to understand this aspect of aortic surgery because of its psychological implications.

Lymphatic leakage must be con-



sidered in the presence of groin masses or ascites. Local pressure dressings, antibiotic coverage, and limb immobilization may control groin problems but some surgeons are becoming more aggressive with early ligation of disrupted lymphatics.<sup>52</sup> Intra-abdominal lymph leakage may cause abdominal fluid collections (ascites). Treatment may require reoperation or dietary manipulation.

Deep venous thrombosis can occur after aortic surgery, but is rarely seen clinically.<sup>53</sup> Hemodynamic, noninvasive studies are helpful but venography is required in equivocal cases. Heparin is the treatment of choice.

Late complications, such as pseudoaneurysm formation, aortoduodenal fistula, progressive distal occlusive disease, as well as other fascinating topics, can only be mentioned to acknowledge their place in the postoperative care of patients undergoing aortic surgery.

# Summary

Aortic operations are performed for specific occlusive symptomatology or for the threat of aortic rupture. The operation is a major stress to the patient and requires careful preoperative risk control, as well as intraoperative judgment. Postoperative diligence is essential to prevent possible morbidity and mortality. In the face of all these considerations, aortic surgery with a mortality of less than 5% and a graft patency of 85-90% at five years can be expected.<sup>14,30</sup>

## REFERENCES

1. Moore, W.S., Hall, A.D.: Unrecognized aortoiliac stenosis. *Arch Surg*, 103:663, 1971.
2. Pearce, W.H., Yao, J.S.T., Bergan, J.J.: Noninvasive vascular diagnostic testing. *Current Problems in Surgery*, XX(8):469, 1983.
3. DeWeese, J.A.: Pedal pulses disappearing with exercise. *NEJM*, 262:1214, 1960.
4. Schwartz, M.D., Freedman, M.D., Richardson, D.R., Hyde, G.L., Griffen, W.O., Vincent, D.G., Price, M.A.: Capillary blood flow: Videodensitometry in the atherosclerotic Patient. *J Vasc Surg*, 1:800, 1984.
5. Imparato, A.M., Gem Eun, K., Davidson, T., et al: Intermittent claudication: Its natural course. *Surgery*, 78(6):795, 1975.
6. Karmody, A.M., Powers, S.R., Monaco, V.J., Leather, R.P.: "Blue Toe" Syndrome. *Arch Surg*, 111:1263, 1976.
7. Flanigan, D.P., Ryan, T.J., Williams, L.R., Schwartz, J.A., Gray, B., Schuler, J.J.: Aortofemoral or femoropopliteal revascularization? A prospective evaluation of the papaverine test. *J Vasc Surg*, 1(1):215, 1984.
8. Szilagyi, D.E.: Clinical diagnosis of intact and ruptured abdominal aortic aneurysms. In *Aneurysms, Diagnosis and Treatment*, Bergan, J.J., Yao, J.S.T. (eds), Grune & Stratton, New York, 1982, p. 205.
9. Brewster, D.C., Retana, A., Waltman, A.C., Darling, R.C.: Angiography in the management of aneurysms of the abdominal aorta. *NEJM*, 292(16):822, 1975.
10. Bergan, J.J., Yao, J.S.T.: Modern Management of abdominal aortic aneurysms. *Surg Clin North Am*, 54(1):175, 1974.
11. Szilagyi, D.E., Elliott, J.P., Smith, R.F.: Clinical fate of the patient with asymptomatic abdominal aortic aneurysm and unfit for surgical treatment. *Arch Surg*, 104:600, 1972.
12. Szilagyi, D.E., Smith, R.F., DeRusso, F.J., et al: Contribution of abdominal aortic aneurysmectomy to prolongation of life. *Ann Surg*, 164(4):679, 1966.
13. Crawford, E.S., Stowe, C.: True aneurysms of the aorta and iliac arteries. In *Vascular Surgery, A Comprehensive Review*, Moore, W.S. (ed), Grune & Stratton, New York, 1983, p. 269.
14. Diehl J.T., Cali, R.F., Hertzner, N.R., et al: Complications of abdominal aortic reconstruction. *Ann Surg*, 197(1):49, 1983.
15. Goldman, L., Caldera, D.L., Nussbaum, S.R., et al: Multifactorial index of cardiac risk in non cardiac surgical procedures. *NEJM*, 297(16):845, 1977.
16. Goldman, L., Caldera, D.L., Southwick, F.S., et al: Cardiac risk factors and complications in non cardiac surgery. *Medicine*, 57(4):357, 1978.
17. Hertzner, N.R., Young, J.R., Kramer, J.R., et al: Routine coronary angiography prior to elective aortic reconstruction. *Arch Surg*, 114:1336, 1979.
18. Cebul, R.D., Kussman, W.G.: Preoperative pulmonary evaluation and preparation. In *Medical Care of the Surgical Patient*, Goldman, D.R., Brown, F.H., Levy, W.R., Slap, G.B., Sussman, E.J. (eds), J. B. Lippincott Company, Philadelphia, 1982, p. 356.
19. Smith, P.K., Fuchs, J.C.A., Sabison, D.C.: Surgical management of aortic abdominal aneurysms in patients with severe pulmonary insufficiency. *SG&O*, 151:407, 1980.
20. Carney, W.I., Stewart, W.B., DePinto, D.J., et al: Carotid bruit as a risk factor in aortoiliac reconstruction. *Surgery*, 81(5):567, 1977.
21. Barnes, R.W., Liebman, P.R., Marszalek, P.B., et al: The natural history of asymptomatic carotid disease in patients undergoing carotid vascular surgery. *Surgery*, 90(6):1075, 1981.
22. Crawford, E.S., Palamara, A.E., Kasprian, A.S.: Carotid and non-coronary operations: Simultaneous, staged, and delayed. *Surgery*, 87(1):1, 1980.
23. Hertzner, N.R., Beven, E.G., Young, J.R., et al: Incidental asymptomatic carotid bruits in patients scheduled for peripheral vascular reconstruction: Results of cerebral and coronary angiography. *Surgery*, 96(3):535, 1984.
24. Bush, H.L., Huse, J.B., Johnson, W.C., et al: Prevention of renal insufficiency after abdominal aortic aneurysm resection by optimal volume loading. *Arch Surg*, 116:1517, 1981.
25. Brenowitz, J.B., Williams, C.D., Edwards, W.S.: Major surgery in patients with chronic renal failure. *Am J Surg*, 134:765, 1977.
26. Casey, J., Flinn, W.R., Yao, J.S.T., et al: Correlation of immune and nutritional status with wound complications in patients undergoing vascular operations. *Surgery*, 93(6):822, 1983.
27. Flinn, W.R., McDaniel, M.D., Yao, J.S.T., et al: Antithrombin-III deficiency as a reflection of dynamic protein metabolism in patients undergoing vascular reconstruction. Presented at Society of Vascular Surgery 38th Annual Meeting, June 7-8, 1984.
28. Buzby, G.P., Mullen, J.L., Matthews, D.C., et al: Prognostic nutritional index in gastrointestinal surgery. *Am J Surg*, 139:160, 1980.
29. O'Donnell, T.F., Darling, R.C., Linton, R.R.: Is 80 years too old for aneurysmectomy? *Arch Surg*, 111:1250, 1976.
30. Crawford, E.S., Bomberger, R.A., Glaeser, D.H., et al: Aorto-iliac occlusive disease: Factors influencing survival and function following reconstructive operation over a twenty-five year period. *Surgery*, 90(6):1055, 1981.
31. McMurphy, J.F.: Wound healing with diabetes mellitus. *Surg Clin North Am*, August:769, 1984.
32. Goldman, L., Caldera, D.L.: Risks of



- general anesthesia and elective operation in the hypertensive patients. *Anesthesiology*, 50(4):285, 1979.
33. Prys-Roberts, C.: Hypertension and anesthesia—fifty years on. *Anesthesiology*, 50(4):281, 1979.
  34. Mannich, J.A., Helveston, H.H., Whitburn, A.D.: Hemodynamic problems associated with abdominal aortic aneurysm replacement. In *Aneurysms: Diagnosis and Treatment*, Bergan, J.J., Yao, J.S.T. (eds), New York, 1982.
  35. Abbott, W.: Renal failure complicating vascular surgery. In *Complications in Vascular Surgery*, Bernhard, V.M., Towne, J.B. (eds), Grune and Stratton, New York, 1980, p. 363.
  36. Pierce, G.E., Turrentine, M., Stringfield, S., *et al*: Evaluation of end-to-side v end-to-end proximal anastomosis in aortobifemoral bypass. *Arch Surg*, 117:1580, 1982.
  37. Kaiser, A.B., Clayson, K.R., Mulherin, J.L., *et al*: Antibiotic prophylaxis in vascular surgery. *Ann Surg*, 188(3):283, 1978.
  38. Ernst, C.B.: Intestinal ischemia following abdominal aortic reconstruction. In *Complications in Vascular Surgery*, Bernhard, V.M., Towne, J.B. (eds), Grune and Stratton, New York, 1980, p. 325.
  39. Garrett, H.E., Ilabaca, P.A.: The ruptured abdominal aortic aneurysm. In *Aneurysms: Diagnosis and Treatment*, Bergan, J.J., Yao, J.S.T. (eds), New York, 1982, p. 303.
  40. Meyers, J.R., Lembeck, L., O'Kane, H., *et al*: Changes in functional residual capacity of the lung after operation. *Arch Surg*, 110:576, 1975.
  41. Anderson, R.J., Linas, S.L., Berns, A.S., *et al*: Nonoliguric acute renal failure. *NEJM*, 296(2):1134, 1977.
  42. Sant, G.R., Heaney, J.A., Parkhurst, E.D., *et al*: Obstructive uropathy—a potentially serious complication of reconstructive vascular surgery. *J Urol*, 129:16, 1983.
  43. Imparato, A.M.: Abdominal aortic surgery: prevention of lower limb ischemia. *Surgery*, 93(1):112, 1983.
  44. Tchirkow, G., Beven, E.G.: Leg ischemia following surgery for abdominal aortic aneurysm. *Ann Surg*, 188(2):166, 1978.
  45. Johnson, W.C., Nabseth, D.C.: Visceral infarction following aortic surgery. *Ann Surg*, 180(3):312, 1974.
  46. Ernest, C.B.: Colon ischemia following aortic reconstruction. In *Vascular Surgery*, Rutherford, R.B. (ed), W. B. Saunders Company, Philadelphia, 1984, p. 972.
  47. Szilagyi, D.E., Hageman, J.H., Smith, R.F., *et al*: Spinal cord damage in surgery of the abdominal aorta. *Surgery*, 83(1):38, 1978.
  48. Moore, W.S.: Infections in prosthetic vascular grafts. In *Vascular Surgery* (2nd ed), Rutherford, R.B. (ed), W. B. Saunders Company, Philadelphia, 1984.
  49. Bennion, R.S., Hiatt, J.R., Williams, R.A.: Surgical management of unilateral groin infection after aorto-femoral bypass. *SG&O*, 156:724, 1980.
  50. Queral, L.A., Whitehouse, W.M., Flinn, W.R., *et al*: Pelvic hemodynamics after aorto-iliac reconstruction. *Surgery*, 86(6):799, 1979.
  51. DePalma, R.G., Levine, S.B., Feldman, S.P.: Preservation of erectile function after aorto-iliac reconstruction. *Arch Surg*, 113:958, 1978.
  52. Kwaan, J.H.M., Bernstein, J.M., Connolly, J.E.: Management of lymph fistula in the groin after arterial reconstruction. *Arch Surg*, 114:1416, 1979.
  53. Satiani, B., Kuhns, M., Evans, W.E.: Deep venous thrombosis following operations upon the abdominal aorta. *SG&O*, 151:241, 1980.

# It's not getting any easier to practice medicine.

*As a physician involved in today's growing medical community, you are faced with the increased involvement of the third party.*

Complex, changing rules and regulations far too often result in disputed billings, inconsistent third party reimbursement and slow payment.

Management of your office and accounts receivable can often require more of your time than can be reasonably allocated without neglecting your practice.

**Medical Accounts Group, Inc.** recognizes the needs of Indiana's medical community, and provides accounts receivable management to meet individual needs in an efficient and cost effective manner.

Highly qualified professionals assist you in developing tailored solutions to your office management problems. Expertise in a broad range of service products includes data processing, third party interface, patient accounts management, turnkey installation and support, and complete office management.

We invite you to call for further information on the **Medical Accounts Group** and allow us the opportunity to demonstrate our services to you.



## **MEDICAL ACCOUNTS GROUP, INC.**

1835 North Meridian • Indianapolis, Indiana 46202 • (317) 923-3046 • 1-800-468-1018 (in Indiana)

**Serving Indiana's Growing Medical Community**

# An Indiana Study: An Original Clinical Approach to a Fatal Metabolic Problem

## Guest Editorial

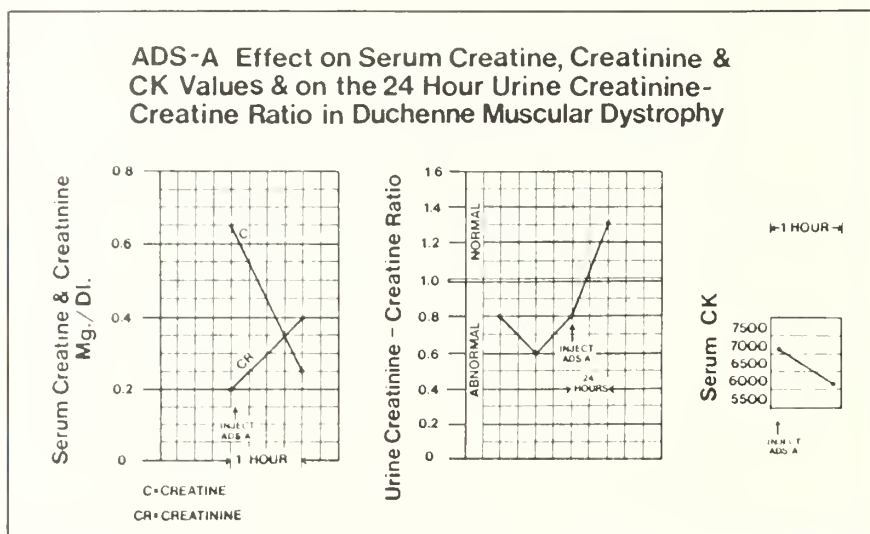
MARK L. DYKEN JR., M.D.  
Indianapolis

A FATAL CHILDHOOD disease that has been recognized for well over a century is Duchenne's Muscular Dystrophy (DMD). This is a disease with a plethora of abnormalities in terms of its clinical, metabolic and histological characteristics. In this inherited sex-linked recessive disease (which can appear as a spontaneous mutation in anyone's family), only boys are affected. They appear as normal youngsters during the first three years of life, but then slowly and inexorably their strength and ultimately their life wanes.

What is the cause of this peculiar disease? Various proponents attribute different etiologies: abnormal trophic relationship to the peripheral nerve, defective protein synthesis, an abnormal muscle membrane, and a defective circulation factor, among others.

The one fact about the disease that is certain is that the genetic abnormality is located on the "X" chromosome. An intense research effort is currently underway in America and Britain to identify and isolate this defective gene. This gene is ultimately responsible for the transcription of an essential, but defective protein molecule. What is

The author is Professor and Chairman of the Dept. of Neurology, Indiana University School of Medicine, Indianapolis.



INITIAL clinical chemistry test showing effect of subcutaneous injection of synthetically produced adenylosuccinate on ATP-controlled parameters.

this molecule? What is its function? If we knew what it was and could produce its normal counterpart synthetically, could this be used to treat the disease? Work is currently underway to determine the amino acid sequence on what is believed to be the offending gene. When this work is completed, it may then be possible to determine the actual protein molecule which is responsible for the metabolic malfunction. This goal appears several years in the future to attain.

Is it possible to target this offending molecule by any other means? Dr. W. H. S. Thomson of Glasgow, Scotland has done a brilliant job of inductive reasoning relating the many proven recorded facts of the disease and has

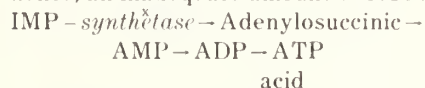
concluded the abnormality to be one of insufficient adenosine triphosphate (ATP) production. (ATP can be synthesized, but it will not pass the muscle membrane.)\*

The same conclusion was reached here in Indiana by Dr. Charles A. Bonsett using an original deductive approach which commenced in the Indiana University Medical Center Muscular Dystrophy Clinic and proceeded from the clinical to the molecular levels at the Tissue Culture Laboratory at Central State Hospital.

\*Thomson, W. H. S.: Clinical trials of allopurinol in Duchenne muscular dystrophy. *Medical Hypothesis*, 17:175-189, 1985.



The genetically determined metabolically defective protein appears to be the enzyme adenylosuccinate synthetase, its malfunction causing an inadequate production of adenylosuccinic acid and, hence, an inadequate amount of ATP.



Adenylosuccinic acid can be produced synthetically. In tissue culture it demonstrates ability to pass membrane barriers and to enter into the denovo pathway of ATP synthesis. It thus appears to have a therapeutic potential for this disease. Will it actually work in the patient with the disease?

With F.D.A. consent and with periodic institutional review committee monitoring, and informed consent procedures, a long-term study by Dr. Bonsett is currently in progress at Community Hospital of Indianapolis. The initial response of the DMD patient to the synthetically produced metabolite is shown in the *Figure* (supplied by Dr. Bonsett). This demonstrates the effect of a small injection

---

Dr. Bonsett's article appears on the next page.

---

(subcutaneous) of synthetic adenylosuccinate given to a volunteer 12-year-old DMD patient in a controlled environmental situation (three days of bed rest.) The increase in serum creatinine, the decrease in serum creatine and creatine kinase, and the marked increase in the 24-hour urine creatinine-creatinine ratio indicate a significant increase in intramuscular ATP activity.

The daily utilization of ATP is tremendous. The amount of the deficiency in DMD is unknown. Because of patient safety, the drug was commenced in five volunteer patients at a dosage of one milligram per kilogram per 24 hours and has been increased gradually in increments over a four-year period. The optimal dose is being determined empirically. It is estimated that a total of six years will be required to complete these determinations.

In this issue of INDIANA MEDICINE, Dr. Bonsett presents the research outline of this Indiana study which shows the relationship of the clinical manifestations to the metabolic abnormality. This long-term ongoing study is a cooperative endeavor involving Community Hospital of Indianapolis, Central State Hospital, Indiana University Medical Center, The Muscular Dystrophy Foundation of Indiana, and patients who live in various parts of Indiana. In addition to Dr. Bonsett, the research team includes Ann Rudman (tissue culture), Dr. Vimalkumar Patel (biochemistry), Rosemarie Wesley (pharmacology), Dr. Amy Fremion (pediatric neurology), Dr. Jans Muller and Dr. Biagio Azzarelli (muscle pathology), and Dr. Mary K. Edwards (radiology).

Those of us who have followed Dr. Bonsett's research over the years as referenced in his paper are quite excited about the potential of these methodically and carefully worked-out studies and are anxiously awaiting the results of confirmation.

## PATIENTS NEEDED FOR DIABETES RESEARCH STUDY

The Diabetes Research and Training Center, Indiana University School of Medicine, is seeking patients for studies with an experimental aldose reductase inhibitor to determine if this drug will prevent or retard the development of diabetic retinopathy. Aldose reductase inhibitors work by preventing the accumulation of sorbital in tissues including the lens, nerves and retina. They have already been found to prevent metabolic cataracts and to improve diabetic neuropathy in experimental trials. Since the retinal cells accumulate sorbital, this trial is designed to determine if the administration of the drug would prevent retinopathy or retard its progress. The drug is ex-

perimental and although no serious side effects have been found, this study will require close follow-up for one to two years. The potential benefit for patients would be close follow-up of their diabetes and retinopathy including retinal photographs and the possible prevention of a serious and disabling complication of diabetes. The trial is in a double-blind format. Otherwise healthy patients with either type I (juvenile) or type II (adult) diabetes are being sought. Patients either without retinopathy or with non-proliferative retinopathy would qualify. Patient referral may be made by calling or having the patients call the Diabetes Center at (317) 630-6374.

# Duchenne Muscular Dystrophy

## A Rational Approach to Disease Comprehension and Therapy

---

CHARLES A. BONSETT, M.D.  
Indianapolis

---

### Abstract

This article postulates the basic pathodynamics of Duchenne muscular dystrophy as gained by observation and perception through a long-term combined clinic-laboratory experience with the disease. Two disease-affected physical properties of the skeletal muscle fiber (density and elasticity) are utilized to detect cause effect linkages (vincula) which relate the inborn metabolic error to the clinical expression. The method discloses a significant deficiency of adenylosuccinic acid, which appears to be correctable in the sense that adenylosuccinate will pass sarcolemmal and mitochondrial membranes; hence, replacement therapy with synthetic metabolite may be possible.

From the Indiana Neuromuscular Research Laboratory, Inc., 3000 W. Washington St., Indianapolis, Ind. 46222. Copyright © 1986, Charles A. Bonsett, M.D.

Supported by the Muscular Dystrophy Foundation of Indiana, Community Hospital Foundation (Indianapolis), Central State Hospital, the Jewel Christie Fund, and an anonymous donor.

Correspondence and reprints: Charles A. Bonsett, M.D., 6133 E. 54th Place, Indianapolis, Ind. 46226.

**A**MONG THE IMPRESSIVE features of Duchenne Muscular Dystrophy (DMD) is the uniformity of the clinical pattern of progression. The rate can vary considerably from patient to patient, but there is remarkably little variation in the order in which the sequence of events unfold. It is this uniformity that indicates the presence of cause-effect linkages (vincula) which transmit the effects of the inborn molecular defect to the ultimate clinical expression, thus suggesting that a method for localizing the metabolic error is to trace the vincula from the clinical frame of reference into succeeding smaller frames.

This is done with a formula consisting of a five-question "set" to be answered in sequence.<sup>1</sup> The method calls attention to two physical properties of the DMD skeletal muscle fiber which are then utilized to clarify disease mechanisms through observation and perception.

### The Five Question Formula:

1. What is the anatomical distribution of the disease?
2. What measurable (linking) feature(s) distinguishes normal tissue from abnormal and one degree of abnormality from another?
3. How does the feature relate to progression of the disease?
4. How does the feature relate to the metabolic abnormality?
5. What is the metabolic abnormality?

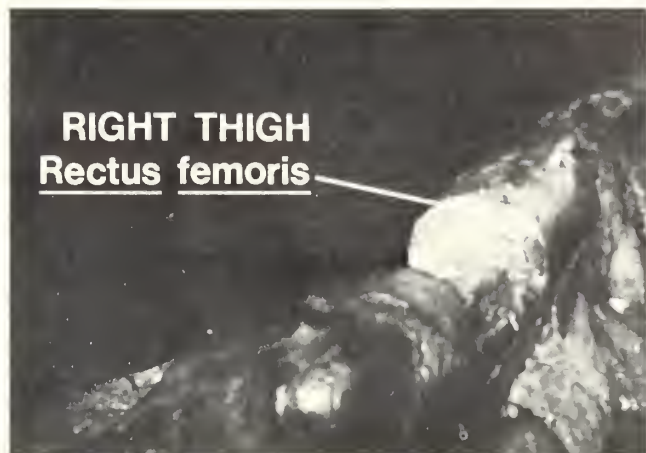
By answering these questions sequentially, a general hypothesis of disease dynamics unfolds and a site of significant metabolic malfunction is disclosed.

### What is the Anatomical Distribution of the Disease?

Except for cardiac muscle, no objective sign of primary disease involving tissue other than skeletal muscle has been shown for DMD. The disease process appears to be limited to striped muscle, but is all striped muscle abnormal? This fundamental question delineates the scope of the overall problem.

One of the unusual features of DMD from the clinical perspective is that not all skeletal muscle appears to be abnormal. Most evident in this regard are the facial and extra ocular muscles. This observation naturally prompts the question as to the anatomical distribution of the disease. Are all skeletal muscles metabolically abnormal or only those which show an abnormal clinical manifestation? The only way that such a question can be answered is to have access to all the muscles in the body—that is, to study the body in terms of the gross pathological anatomy.

If the evaluation is performed at or near the time when the patient was still ambulatory, then a revealing pattern of fatty replacement will be obvious (*Fig. 1*). If the evaluation is done at a time following a number of years of wheelchair existence and progressive disuse of an ever-increasing volume of muscle (the more usual situation), then the pattern will have become completely obliterated by the continuing fatty replacement (*Fig. 2*). This singular pattern of fatty replacement indicates the muscle's metabolism and/or function make the environment conducive for lipomatosis to occur. Lipomatosis, during its initial years of development, appears to be an



**FIGURE 1:** Transverse section of right thigh. DMD patient with slow disease progression. The patient had lost the ability to walk a few months before his death. Note that the rectus femoris muscle is completely replaced by fat in contrast to most of the remaining musculature.



**FIGURE 2:** Transverse section of forearm. DMD patient who had lost the ability to ambulate at least 10 years before his death. The forearm muscles are completely replaced by fat. Complete fatty replacement of the forearm muscles requires a period of time measured in terms of years after ambulatory ability is lost.

active contraction-related process, and only with prolonged disuse is it limited to a passive replacement of inactive musculature.

That the metabolism of the muscle is altered is indicated by its specific gravity. The density of the fibers diminishes with disease progression. All skeletal muscle in DMD is abnormal in this regard, including the muscles which show no clinical indication of abnormality.<sup>2</sup>

If all are abnormal, then why are they not all abnormal to the same degree? Terminally, the range extends from almost normal (e.g., extra ocular muscles) to complete replacement by adipose tissue (e.g., gluteal muscles). The least stressed muscle shows the least degree of abnormality; the most stressed muscle shows the greatest, and also the most rapid and complete degree of fatty replacement. If the inherited metabolic defect is the same in all muscles (which is a rational assumption) then why should the disease run such a variable course in different muscles of the body? Accelerating factors are present which affect the rate of disease progression, and these factors appear to have a relationship to

the muscle's work destiny.

Considered in this light, the metabolic error alone can account for neither disease progression nor the unusual pattern of wasting.

#### **What Measurable (Linking) DMD Feature(s) Distinguishes Normal from Abnormal Tissue and One Degree of Abnormality from Another?**

By examining and dissecting small blocks of normal and DMD skeletal muscle tissue (representative of different stages of the disease), a number of remarkable features are noted. In contrast to normal skeletal muscle, DMD tissue at any age is very sticky due to surface lipid, and the muscle becomes increasingly difficult to separate into its constituent fibers due to the progressive increased fibrosis surrounding the individual fibers. Also with disease progression, the fibers show a progressive loss of elasticity, a vital physical property which ipso facto makes it an essential linking feature.<sup>2</sup>

The vincular function of elasticity extends to the clinical frame of reference where a number of mechanical-physiological phenomena are depen-

dent upon its presence (e.g., the muscle stretch reflex, jumping, balancing on one foot, hopping, rapid postural adjustment, etc.).

Neither muscle weakness nor muscle spindle pathology can account for the failure of these phenomena.

It is well known that the muscle stretch reflexes (i.e., postural reflexes) disappear gradually in DMD. Yet it is also well known that the entire reflex arc is intact (histologically) from the muscle spindle to the motor end-plate. That muscle weakness does not account for the loss is clearly shown by the preservation of the abdominal skin reflexes and cremaster reflexes long after disappearance of the abdominal postural reflexes.

What then accounts for the loss of the muscle stretch reflex? Is the primary problem with the muscle spindle or is the explanation entirely on the basis of loss of skeletal muscle elasticity?

Batten demonstrated many years ago that the spindle is anatomically preserved in DMD<sup>3</sup> and we demonstrated that it remains capable of function in terms of its electromyographical manifestation.<sup>4</sup> Loss of elasticity, there-



fore, is the answer.

The physical manipulation of individual skeletal muscle fibers from fresh biopsy and from formalin-fixed tissue from DMD patients at different clinical periods, demonstrates from observation alone that the physical property of elasticity is present early in the disease but becomes diminished and ultimately disappears. The loss of elasticity of skeletal muscle with progression of the disease causes the spindle to become less responsive. (Skeletal muscle at rest physiologically is physically in a state of stretch.) This explains why, with the loss of this physical property, the system becomes inactivated, even though the components are preserved anatomically.

A second useful linking feature which is present from the earliest age is an increased production of intracellular lipid, this having the effect of increasing the buoyancy of the skeletal muscle fiber and being the principal factor in altering the muscle's specific gravity with disease progression.<sup>5</sup> Observation of intracellular lipid can be used to link the cellular to the molecular frame of reference by utilizing lipid as an indicator in evaluating the chemistry of the living cell in this disease.<sup>6</sup>

These observations explain the loss of muscle stretch reflexes which, in terms of function, accounts not only for progressive postural deterioration but also sets the stage for accelerated muscle wasting on the basis of deforming stretch, as will be explained below.

#### How Does the Feature Relate to Progression of the Disease?

From the clinical frame of reference, DMD is a disease in slow motion characterized by progressive deterioration of posture and by progressive muscular weakness, which from the gross pathoanatomical perspective translates into a disease of progressive fatty replacement of skeletal muscle of singular pattern. From the tissue culture perspective, the most impressive feature is the pro-

pensity of DMD skeletal muscle to produce intracellular lipid. The linking common denominator of all these elements is muscle contraction, the progression in all elements being related to the contraction demand.

**Intracellular Lipid.** DMD skeletal muscle explants, obtained by biopsy for tissue culture purposes, demonstrate a considerable loss of intracellular lipid into the medium during the first few days of culture. After that the demonstration, though present, is less impressive even though the muscle is alive, healthy and reproducing. The lipid is present regardless of patient age even though the muscle is from a patient still too young to be demonstrating clinical signs of DMD. Such muscle has, of course, been physically active while accumulating intracellular lipid prior to the biopsy. The presence of excess lipid in the excised DMD muscle and its quantitative decrease in the inactive tissue culture state suggests a relationship of lipid production to muscle contraction.

Normal skeletal muscle, grown in a tissue culture environment, will produce lipid if the culture medium contains appropriate nutrients. Serum is the most influential ingredient in most media for demonstrating this phenomenon. By reducing the serum content to 2% (from 20%) after cellular proliferation has occurred (and after the explant has been removed), cells grown from normal human muscle produce essentially no visible lipid. In contrast, identically treated cells grown from DMD skeletal muscle show a considerable amount of intracellular lipid. The population of such cultures consists of a variety of cells, most abundant of which are cells originating from skeletal muscle and from fibrous tissue. Cells originating from skeletal muscle can be identified because they fuse into multinucleated forms. The lipid present is not limited to cells of muscular origin but is found in all cells present. Yet, of the various mature tissue types present in the original explant, it is only skeletal muscle that clearly

demonstrates a loss of lipid into the medium. When the explant is removed and new medium provided, the DMD skeletal muscle cells continue to produce lipid, and the lipid content of the medium becomes greater than that of identically treated normal skeletal muscle cells.<sup>6</sup>

If the medium is transferred from one normal culture to another, or from one normal to a DMD culture, no remarkable effect is noted. However, if the medium is transferred from a DMD culture to a normal, lipid appears within a few hours in all the cells of the normal culture.<sup>6</sup> This demonstrates the nutrient characteristic of DMD-produced lipid.

These observations indicate that a lipid pathway is "turned on" abnormally in the muscle fibers of DMD, and that the amount of lipid increases with muscle contraction, that the excess lipid escapes from the fiber, thus providing potential nutrient for adipose and fibrous cells.

**Lipomatosis.** Fatty replacement of skeletal muscle in DMD is found initially and most prominently in muscles of greatest sustained contraction demand. Muscles so situated not only deteriorate more rapidly but also have a greater volume of fatty replacement than can be accounted for on the basis of skeletal muscle loss alone (as, for example, the fatty replacement of skeletal muscle associated with anterior horn cell disease or peripheral neuropathy).<sup>7</sup> This propensity for proliferation and growth of adipose cells in DMD indicates the contraction environment to be conducive for this to occur. Fat cells appear to be stimulated to growth and to be nourished by the contraction-produced lipid. The greater the contraction activity, the greater the lipid production and the greater the proliferation of adipose tissue.

This replacement pattern alone also indicates a relationship of the contraction demand to the structural and functional failure of the contractile (elastic) elements, thus indicating a linkage to the inborn metabolic error and sug-

gesting this inborn error to be situated somewhere along an energy pathway.

**Skeletal Muscle Elasticity.** The clinical pattern of disease progression in terms of muscle stretch reflex loss directs the investigator's attention to the role of these reflexes with regard to the maintenance of posture, and to the development of progressive postural deterioration with failure of the reflex mechanisms.

The complex wasting pattern cannot be explained alone on the basis of an inborn metabolic error along an energy pathway.

The very profound changes associated with deterioration of pelvic posture raise the question as to the role of postural reflex failure in accelerating disease progression in other areas. For example, failure of the gluteal muscles introduces the element of trunkal oscillation during ambulation both in a side-to-side and in a to-and-fro direction. Reflex activation of the abdominal muscles at this stage is minimal or absent so that, even if sufficient muscular strength were potentially present to dampen these oscillations (which it is not), the mechanism for such protection is not being triggered. Since there is no anatomical structure to limit the extent of trunkal excursion, the affected muscles are perforce passively stretched and thereby traumatized. The deterioration of such muscles proceeds at a much more rapid rate and in certain areas proceeds to atrophy without preceding pseudohypertrophy. The latissimus dorsi and the abdominal origins of the pectoralis major are the most obvious examples.

The latissimus dorsi becomes an ancillary muscle of ambulation in association with the waddling gait, this contributing to the side-to-side oscillation. The abdominal origin of the pectoralis major is not reflexly stimulated in a postural role, hence is vulnerable to stretch deformity with forward rotation of the pelvis, posterior tilting of the rib cage, and with the to-and-fro trunkal oscillation in ambulation. The two muscles (latissimus dorsi and the

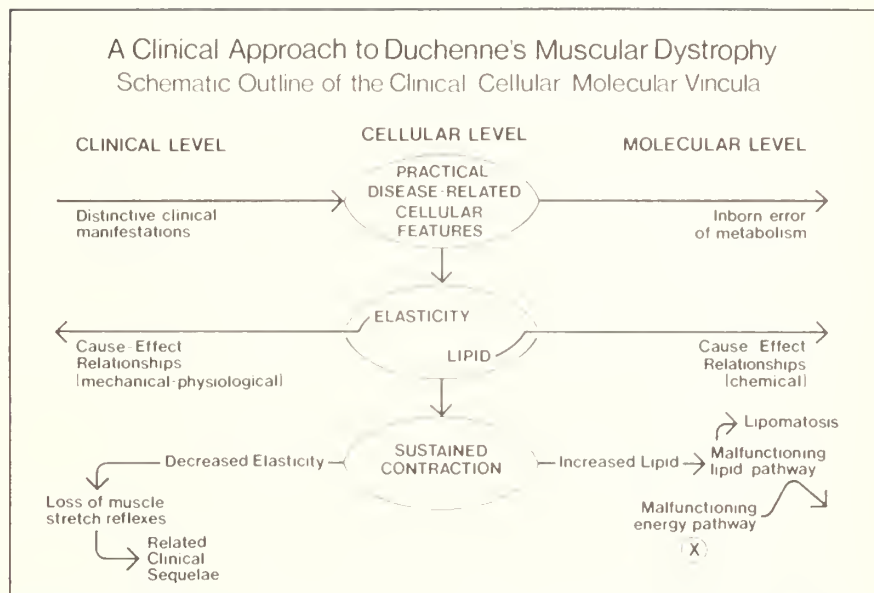


FIGURE 3: Schematic diagram of the vincular method for the study of DMD. The physical properties of muscle fiber elasticity and density are disease related (the latter by the fiber's propensity to produce intracellular lipid), and both are altered by sustained muscle contraction; thus, it is possible to trace cause-effect relationships from the clinical manifestation to the site of metabolic dysfunction.

abdominal origins of the pectoralis major) deteriorate concurrently.

Neither the latissimus dorsi nor the abdominal origin of the pectoralis major shows pseudohypertrophy (which depends upon sustained contraction, increased lipid production, and lipomatosis for its manifestation). These muscles waste primarily because of the disease-accelerating effect of deforming traction for which no anatomical feature or physiological mechanism exists to prevent. In any given area, loss of protective reflex function leaves the muscle vulnerable to this force.

This mechanical factor, which is far more devastating than the slow deterioration associated with the sustained contraction demand, is not chemically related to the inborn error of metabolism. It develops only with diminution and loss of skeletal muscle elasticity. (This may well be the basis of focal fiber necrosis so prominent from the histological perspective.)

The study to this point suggests that

an important metabolic error is located along an energy pathway. Lipid production is a manifestation of this error. The affected metabolite is in short supply, being adequate with the muscle at rest or lightly stressed but inadequately produced in response to a sustained work demand. It appears that this deficit is compensated at the expense of elastic structure and that intracellular lipid appears as a ramification of this inborn error of metabolism (which in turn promotes lipomatosis). (Fig. 3).

#### How Does the Feature Relate to the Metabolic Abnormality?

The intracellular lipid provides a visual indicator which permits an empirical search for its cause by means of a tissue culture technique.<sup>6,8</sup> By reducing the serum content to 2% after the cells have been allowed to proliferate, those derived from normal human skeletal muscle will no longer produce intracellular lipid. Those from

DMD, however, will continue to do so. By adding any given metabolite in appropriate concentration the effect, if any, of that metabolite on the lipid production can be determined.

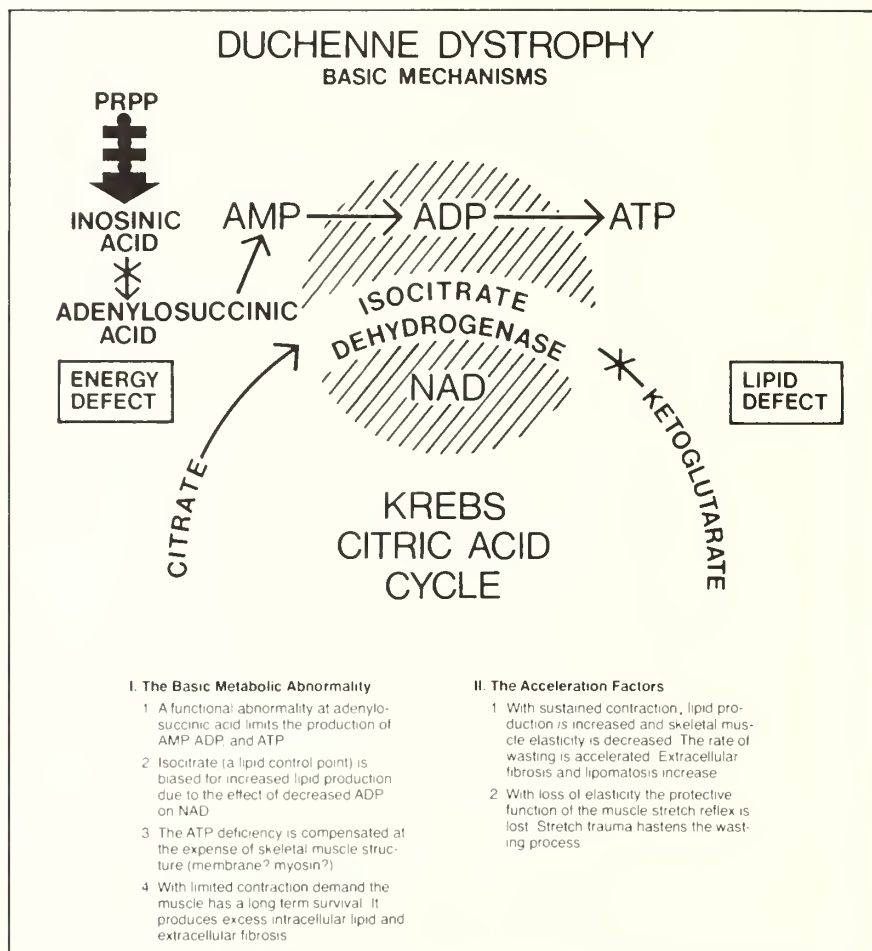
In this way tissue culture can be used as a sensitive instrument for checking the continuity of the various metabolic pathways (i.e., enzyme systems) in the living cell. By this means a number of energy pathways in normal human and DMD skeletal muscle have been evaluated. The initial DMD defect was found in the study of Krebs tricarboxylic acid cycle, at isocitrate dehydrogenase, a lipid production control point.<sup>8</sup>

This observation implied an abnormality with an interfacing metabolite, either a deficiency in nicotinamide adenine dinucleotide (NAD), or in adenosine diphosphate (ADP), the co-enzyme's modulator.

#### What Is the Metabolic Abnormality?

By evaluating NAD, for which a shuttle mechanism exists for passing membrane barriers (and for which no functional abnormality could be demonstrated), and then by evaluating the denovo synthesis of the adenosine phosphates, AMP, ADP, and ATP, a significant quantitative defect was found at adenylosuccinic acid,<sup>8</sup> implying a malfunction of adenylosuccinate synthetase in the denovo synthesis of ATP or else some type of malfunction affecting the purine nucleotide cycle and suppressing adenylosuccinic acid. Of critical importance is the observation that a trace amount of adenylosuccinate completely eliminates intracellular lipid.

The effect of increased adenylosuccinate concentration within the cell is to increase the AMP—ADP—ATP concentration. Since ADP concentration determines whether isocitrate will proceed on through Krebs cycle or be routed into a lipid-producing pathway, it seems probable that decreased ADP concentration in DMD accounts for the presence of excess intracellular lipid—and hence lipomatosis and pseudo-



**FIGURE 4:** Outline presentation of disease dynamics in DMD as postulated from this study.

hypertrophy. (The total pathodynamics of this disease as postulated from this study is shown in *Fig. 4.*)

In order for adenylosuccinate to achieve this effect, it must pass sarcolemmal and mitochondrial membrane barriers.

#### THERAPEUTIC CONSIDERATIONS

Since adenylosuccinate can pass sarcolemmal and mitochondrial membranes and apparently correct the metabolic defect in terms of its lipid manifestation, the use of synthetically produced adenylosuccinate for replacement therapy is at once suggested.

Any program for evaluating drug effects on DMD must first give due regard to the phenomenon of fatty

replacement. Improving the function of existing muscle and restoring it to a state of health is one thing. Reversal of the phenomenon of fatty replacement of muscle is something else. We do not know if such a mechanism exists and will not know until it can first be shown that the metabolic defect in this disease is correctable or at least can be completely compensated.

Assuming that no restoration of skeletal muscle is possible in areas of fatty replacement, then the best result possible would be that which could be obtained by achieving maximum development of remaining musculature. The disease would be halted in place, surviving muscle achieving a greater strength capability.



In order to achieve the maximum possible benefit from an effective replacement therapy program, metabolite replacement would have to be initiated very early in the disease before irreversible changes took place, and the dosages would have to be adequate. Inadequate dosage would allow the disease to progress, but at a slower rate.

If ATP is deficient and correction of the deficiency is possible, then the primary effect of increasing ATP production should be an improvement of skeletal muscle function in terms of endurance, efficiency, speed and strength. These effects should be most evident in muscles that have the least degree of impairment, e.g., the distal muscles, especially those of the hands. Conversely, the least effect would be expected in the postural girdle muscles, particularly where the dosage is inadequate and/or where some degree of fatty replacement of skeletal muscle is already present.

The physical property of skeletal muscle elasticity is the primary feature to which drug efficacy should be objectively correlated—in terms of preservation or restoration of muscle stretch reflexes, development of the ability to jump, to hop, and to balance on one foot alone. DMD patients fall frequently because of inability to make rapid postural corrections due to decreased spindle sensitivity. This phenomenon should show improvement.

Laboratory monitoring of the drug which increases intracellular

AMP → ADP → ATP concentration presents a variety of possibilities. For example, AMP concentration modulates the enzyme fructose diphosphate. ADP modulates NAD isocitrate dehydrogenase, and from our studies its deficiency appears to be the reason for the abnormal lipid and lipomatosis in this disease. The reaction AMP → ADP → ATP is strongly to the right so that ATP-controlled reactions are expected to be the most sensitive especially in evaluating subtherapeutic dosages of replacement metabolite, e.g., the phosphorylation of creatine.

The functions of ATP are several:

1. Provides the energy source for muscle contraction.
2. Maintains the phosphocreatine store.
3. Provides the energy source for a number of biochemical reactions (e.g., phosphorylation of glucose in the synthesis of glycogen).
4. Provides the energy source for moving ions through membranes against concentration gradients (e.g., calcium).

A number of procedures, both clinical and laboratory, are available for monitoring drug effect objectively.

#### Conclusion

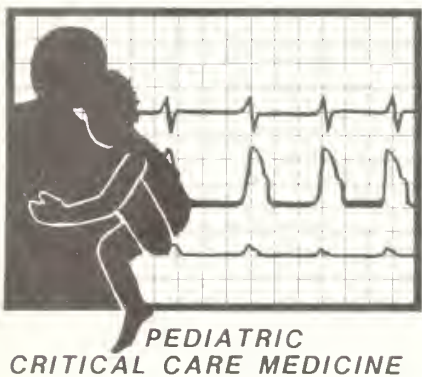
The present paper has outlined the rationale for using custom-produced adenylosuccinate in a pilot program for treating a limited number of DMD patients, and the general considerations to be followed in preparing the research protocol.

The FDA has approved a volunteer five-DMD patient Phase I and Phase II study using synthetically-produced adenylosuccinate (IND 17,848). This study, which is conducted with appropriate informed consent and Institutional Review Committee monitoring procedures, is now in its fourth year.

#### REFERENCES

1. Bonsett CA, Lui M, Rudman A, Wesley R: The 'peculiar features and mysterious nature' of Duchenne's muscular dystrophy: A clinical approach to a metabolic problem. *Scientific Exhibit, ISMA Annual Meeting*, 1984.
2. Bonsett CA: Studies of pseudohypertrophic muscular dystrophy (Chap. 7). Charles C. Thomas, Springfield, Ill., 1969.
3. Batten FE: The muscle spindle under pathological conditions. *Brain*, 20:138-179, 1897.
4. Bonsett CA, Abreu BE: Skeletal muscle studies by means of combined electrophysiology and needle biopsy. II. The muscle spindle. *Neurology (Minncap)*, 13:327-330, 1963.
5. Bonsett CA: Pseudohypertrophic muscle dystrophy: Distribution of degenerative features as revealed by an anatomical study. *Neurology (Minncap)*, 13:728-738, 1963.
6. Bonsett CA, Rudman A, Elliott AY: Intracellular lipid in pseudohypertrophic muscular dystrophy tissue culture. *J Indiana State Med Assoc*, 72:184-187, 1979.
7. Tyler FH: Studies in disorders of muscle. III. 'Pseudohypertrophy' of muscle in progressive muscular dystrophy and other neuromuscular diseases. *Arch Neurol Psychiat*, 63:425-432, 1950.
8. Bonsett CA, Rudman A: Duchenne's muscular dystrophy: A tissue culture perspective. *Indiana Medicine*, 77:446-449, 1984.

# Prevention of Childhood Injuries: An Open Agenda



CHARLENE GRAVES, M.D.  
Indianapolis

**W**HILE MUCH PROGRESS has been made in the past decade in the transportation and high quality of care rendered to injured children, the same sense of accomplishment is not apparent in the area of injury prevention. For children, injuries remain the number one preventable disease, since immunizations have largely conquered many infectious diseases.

The toll taken by injuries is enormous; they are the leading cause of death to age 40. Loss from injuries can be measured in several ways: financially, in terms of loss of potential earnings and productivity (\$25 billion estimated for 1980),<sup>1</sup> and in potential years of life lost (2½ million years annually).<sup>2</sup> One death in every 12 results from injury.<sup>1</sup> In the child and adolescent population, about 22,000 deaths due to injury occur each year.<sup>1</sup> Annually, about one of 5 children require a visit to an emergency setting because of injury.<sup>3</sup>

Several recent reviews discussed the topics of accident or injury prevention.<sup>4,5,6</sup> This article will use the terminology *injury* prevention rather than *accident* prevention because "accident" connotes the qualities of unpredictability and randomness. Most serious injuries are not entirely random events but are the result of known factors that place a child (or adult) in a situation at risk for trauma.

The leading cause of injury deaths in children and youth is motor vehicle related trauma.<sup>5</sup> In considering the leading causes of injury deaths from ages 0 to 19, motor vehicles account for 63% of deaths, drowning for 12%, burns for 8% and lesser percentages from choking/suffocation, poisoning, falls and bicycle collisions.<sup>7</sup> Of motor vehicle associated deaths in this population, two-thirds were occupants, 16% were pedestrians, 7% were motorcyclists, and 4% were bicyclists.

Factors well known in regard to motor vehicle injuries are: any combination of alcohol, drugs and/or speeding on the part of the driver; hazardous weather conditions; and faulty mechanical functioning of vehicle parts. By the same token, factors

TABLE 1  
Injury and Death Rates and Sex Ratios by Age Groups\*

	Injury Rates (Per 10,000)	M:F	Death Rates (Per 10,000)
Preschool (0-5 years)	1,769	1.29:1	2.2
Elementary School Age (6-12 years)	2,037	1.72:1	0.7
Teens (13-19 years)	2,718	1.83:1	2.3

\*Abstracted from SCIPP report in AJPH, December 1984 (reference 3)

The author is Director, Pediatric Medical Education, Methodist Hospital of Indiana, Inc., 1604 N. Capitol Ave., Indianapolis, Ind. 46202. She also is Chairperson of the Accident and Poisoning Prevention Committee, Indiana Chapter, American Academy of Pediatrics.

that provide protection from motor vehicle injury are also known: seatbelts and air bags; childhood restraint devices; and driving at safe speeds and in a manner appropriate to road and weather conditions.

The rate of injuries varies by age as demonstrated in data obtained from the Statewide Childhood Injury Prevention Program (SCIPP) in Massachusetts.<sup>3</sup> This study surveyed 23 hospitals in 14 communities during a 12-month period in 1980-81 to determine the nature of all injuries occurring in residents through 19 years of age. With a population base of 87,022, the overall injury rate was found to be 2,239/10,000. There were 5,270 emergency room visits, 668 hospital admissions, and 15 deaths (five from house fires, five from motor vehicle collisions, three from drownings, and one each from gunshot and electrocution). Injuries accounted for 17% of pediatric hospitalizations, while in adults, 8% of hospitalizations result from injuries. Injury and death rates and male:female ratios obtained from the SCIPP study are listed in Table 1.<sup>3</sup> Injury rates progressively increase with age, and males predominate over females at all ages.

There is a relative sparing of deaths in the elementary school-aged group.

Types of injury also vary by age. Infants through preschoolers have more injuries from falls, more poisonings, and the highest incidence of burns and choking/suffocation injuries. This age group has three times the risk of drowning when compared to older children. Falls, bicycles and sports account for most of the injuries in the 6 to 12 year age group. In teenagers, sports injuries (in rank order: football, basketball, roller-skating, baseball) comprise a major proportion of injuries. Annually, one of 50 teenagers is injured as a motor vehicle occupant.

When types of injury necessitating hospitalization were examined, it was found that more than 20% each of motorcycle injuries, drownings, and pedestrian-related injuries were admitted. Falls accounted for 24% of all admissions, sports injuries for 17%, and motor vehicle occupant injuries for another 14%.<sup>3</sup> However, the longest hospitalizations were associated with burns, then pedestrian injuries, explosives, and motorcycle injuries, in rank order. While many injuries treated in an emergency setting are



Falls, bicycles and sports account for most of the injuries among children ages 6 through 12. Annually, about one of five children requires a visit to an emergency setting because of injury.

**TABLE 2**  
Analysis of Injury Prevention Strategies:  
Example of Motor Vehicle Injuries to Children

PHASES	HUMAN (HOST)	VEHICLE (VECTOR)	ENVIRONMENT
Pre-event	Restrain child in car seat. Don't drive if drinking.	Proper installation of seat.	Improve road conditions. Remove obstacles.
Event	Child wears helmet.	Energy absorbing interior.	Make abutments and poles break away during crash.
Post-event	Parent performs first aid.	Control fuel leakage to prevent fire.	Develop competent emergency medical system.

Reprinted from Injury Prevention in the Community: A Systems Approach. *Ped Clin N Amer*, 32:255, 1985.

not life-threatening (sprains, contusions and lacerations account for three-fourths of these injuries), 25% of patients sustaining intracranial injuries were admitted.

With these background data from recent studies in mind, let us examine some aspects of prevention and control of injuries in children.

It is helpful to have a theoretical framework to analyze injuries and determine strategies for prevention. Such a methodology has been proposed by Haddon, who analyzes the components of an injury event in terms of the victim (host), the injury-producing agent (vehicle), and the environment.<sup>8</sup> This type of analysis identifies contributing factors to a set of injuries and also phases of the injury process in which the factors interact, leading to



TABLE 3  
Haddon's Prevention Strategies

Prevent the creation of the hazard.  
Reduce the amount of the hazard brought into being.  
Prevent the release of the hazard.  
Modify the rate of release of the hazard from its source.  
Separate the hazard from that which is to be protected by time and space.  
Separate the hazard from that which is to be protected by a physical barrier.  
Modify relevant basic qualities of the hazard.  
Make what is to be protected resistant.  
Begin to counter the damage done by the hazard.  
Stabilize, repair, rehabilitate the object of the damage.

Reprinted from *Injury Prevention in the Community: A Systems Approach*.  
*Ped Clin N Amer*, 32:255, 1985.

consideration of a set of strategies for intervention. An example of the use of the Haddon matrix, as applied to motor-vehicle injuries in children, is provided in Table 2.<sup>5</sup> Table 3 lists the 10 prevention strategies elucidated by Dr. Haddon.<sup>8</sup>

Another method of assessing prevention and control strategies can be considered. *Passive* control strategies, i.e., methods that cannot be influenced by human behavior, are more effective than any method requiring change in human behavior (termed *active* control strategies). The success of required child-proof caps on children's aspirin is an example of a passive control strategy that has clearly decreased salicylate poisoning in children. Air bags in automobiles are a passive strategy, while the use of seat belts by motor vehicle occupants is an active strategy.

*Pedestrian injuries* account for the deaths of about 6,000 adults and 2,000 young people each year, while 110,000 people receive non-fatal injuries.<sup>9</sup> While 15.5% of the population are in the 5 to 14 year age group, 30% of non-fatal pedestrian injuries involve these children.<sup>10</sup> Sixty percent of all motor vehicle accidents involve pedestrians, and in children, most of these injuries occur between noon and 6 p.m. The 5-9

year old child is at highest risk and boys are at greater risk than girls. Some factors involved include: 1) rapid speed and/or inattentiveness or negligence of drivers; 2) sidewalks or children's path of transit being very close to busy roadways; 3) developmental immaturity of young children who may be unable to accurately judge the speed/distance between themselves and approaching vehicles; 4) the necessity of children attending school and thus exposing themselves to a "dangerous" environment (street crossings); and, 5) at times, impulsive, unpredictable behavior of children (as in darting into the street).

Prevention strategies can be developed to impact upon these aspects of pedestrian injury. These might include: 1) strict detection and law enforcement for speeders and erratic drivers; 2) engineering approaches to separate pedestrian children from vehicular traffic (used in community design in Scandinavia); 3) formal teaching and close supervision of young children as pedestrians (school crossing guards and parents play an important role here); 4) younger children going back and forth to school can be accompanied by older children and/or adults who, presumably, have more advanced judgment and decision-making

abilities; 5) careful education and supervision of children to help decrease impulsive behavior. Only the second strategy could be considered a passive control strategy—all others require modifications of human behavior to be effective. In order to create any major impact upon this cause of injury, more communication and planning must take place among health care professionals, educators, engineers and others concerned with child safety.

*Bicycle injuries* provide another example of the need for improved strategies. Two-thirds of all bicyclist deaths occur in the 5-14 year old age group.<sup>1</sup> In 1980, 604 children (ages 0-19) in the U.S. died of bicycle injuries.<sup>11</sup> The Consumer Products Safety Commission estimates that over 500,000 such injuries occur annually.<sup>11</sup> Bicycle injuries peak in the 6 to 12 year age group, affect males more often than females, and increase in the summer months. Ninety-five percent of deaths were associated with bicycle-motor vehicle collisions. Injuries to the head, central nervous system, or face accounted for 32% of all bicycle injuries but were responsible for 62% of the admissions. Factors involved include: 1) riding a bicycle is an expected "rite of passage" for the majority of elementary school-aged children permitting transportation to the homes of friends and other activities; 2) children are allowed to ride bicycles on roadways at young ages when they are not very skilled in balancing/maneuvering a bicycle; 3) few children receive formal training in bicycle safety techniques; 4) frequently children have no alternative to riding their bicycle in roads or streets, exposing themselves to the much more powerful forces of moving automobiles; 5) usually, no particular method is used for protection from head injuries.

Again, various strategies can be used to decrease bicycle-related injuries. 1) Parents can assess the age at which it is most appropriate and safest for a child to learn to ride a bicycle—learning to ride at age 8 or 9

is probably safer than at age 6 or 7. 2) Children should not be allowed in roadways until a thorough assessment of their ability to maneuver a bicycle and handle important decisions and judgments in heavy traffic has been made. 3) Bicycle safety courses could be required, with a test of driving ability included, just as teenagers must accomplish before they can legally drive a car. 4) Bicycle paths can be designed and built to separate pedal vehicles from motor vehicles. 5) Helmets should be used, although there are as yet no studies documenting their effectiveness. Strategy number four (bicycle paths) exemplifies a passive control strategy for this type of injury. As with pedestrian injuries, it will take a coalition of concerned people from many different fields to advocate for improved safety measures on behalf of children.

General preventive approaches based on the age of the child are listed in Table 4. There is no substitute for close supervision of young children. As children get older, balance must be achieved between the level of supervision and the need for independent function.

Much work remains to be done in identifying the psychological, medical and behavioral characteristics of children who sustain various types of injuries. Prospective knowledge of high-risk subgroups can lead to targeted interventions followed by analysis of their effectiveness in preventing injuries.

Incentives can be used to influence human behavior, although presently "disincentives" such as tickets/fines for speeding are most often used. Other factors influencing the attention that people pay to injury prevention and control include the amount of effort needed to implement protection, convenience or inconvenience of the measure, associated comfort or discomfort, and cost.

Physicians caring for families should provide anticipatory guidance on prevention of injuries during health maintenance visits. The American

TABLE 4 Preventive Approaches Based on Age of the Child	
AGE OF CHILD	APPROACHES
Infants & Toddlers	Constant supervision; modifying environment
Preschoolers	Frequent reminding of unacceptable behaviors; close supervision; safe environment
School-Age	Stress rules and limit-settings; assess child's level of understanding of risks; individual decisions versus peer group expectations
Adolescent	Assertiveness training; positive feedback, enhance self-esteem; set limits and consequences of misbehavior; peer leaders and role playing

Academy of Pediatrics has developed and tested a helpful program called TIPP (The Injury Prevention Program). This consists of a brief series of questionnaires to be completed by parents during infant, toddler, and preschool visits. Answers indicating high-risk situations for the child are then discussed with parents at that visit. In office practice, this program requires an average of three minutes for the completion of the questionnaire and the same amount of physician counseling. It is inexpensive and provides age-related safety sheets to reinforce verbal education given.\*

Physicians should use every opportunity available to increase family awareness of effective safety measures for children. They can also present pertinent information to the media and work with public health officials and legislators to create laws and regulations that offer increased protection to children from this common but preventable disease—injuries. Recommendations on motor vehicle safety, such as those published by the American College of Emergency Physicians, are an example of measures all physicians should support.<sup>12</sup> Much remains to be accomplished if we truly expect to

change the alarming toll taken by injuries in childhood.

#### REFERENCES

1. Baker SP, et al: *The Injury Fact Book*. Lexington Books, 1984.
2. *Morbidity and Mortality Weekly Report*. Vol. 31, No. 42, October 25, 1985.
3. Gallagher SS, et al: The incidence of injuries among 87,000 Massachusetts children and adolescents: Results of the 1980-81 Statewide Childhood Injury Prevention Program Surveillance System. *Am J Publ Health*, 74:1340, 1984.
4. Rivara FP: Traumatic deaths of children in the United States: Currently available prevention strategies. *Pediatrics*, 75:456, 1985.
5. Injuries and injury prevention. *Ped Clin N Amer*, 32, 1985.
6. Childhood accident prevention. *Pediatric Annals*, 12, No. 10, 1983.
7. Guyer B, et al: An approach to the epidemiology of childhood injuries. *Ped Clin N Amer*, 32:5, 1985.
8. Haddon W: Advances in the epidemiology of injuries as a basis for public policy. *Public Health Reports*, 95:411, 1980.
9. Guyer B, et al: Pedestrian injuries to children and youth. *Ped Clin N Amer*, 32:163, 1985.
10. Tanz R, Christoffel K: Pedestrian injury: The next motor vehicle challenge. *Amer J Dis Child*, 139:1187, 1985.
11. Friede A, et al: The epidemiology of injuries to bicycle riders. *Ped Clin N Amer*, 32:141, 1985.
12. American College of Emergency Physicians: Motor vehicles safety recommendations. *Indiana Medicine*, 78:868, 1985.

\*TIPP can be obtained by writing to the American Academy of Pediatrics, Publication Dept., 141 Northwest Point, P.O. Box 927, Elk Grove Village, Ill. 60007.



# Mushroom Poisoning

## A Few Words of Caution for Those Adventurous Mycophagists

---

JAMES F. ROLD, M.D.  
Evansville

---

**A**N INDIANA AUTHOR estimates that 30 million people have been struck with mushroom madness: They hunt and eat wild mushrooms for one reason or another.<sup>1</sup>

Mycophagia, the scientific name for eating mushrooms, is popular in many regions of North America. One reason is the general inclination to return to things that are natural or wild or uncontaminated by modern agricultural methods. A second reason for the popularity is the excitement and thrill of finding a unique and delectable food with no one else's help and without cost. The third reason is the continued and increasing use of "recreational drugs" (some species of mushroom are hallucinogenic).

Fungi are plants that do not have the ability to manufacture their own carbohydrates. They lack chlorophyll. They must depend on other organic matter, living or dead, for their nutrition. Fungi are composed of mycelia and produce spores for procreation. Some higher order fungi also produce fruiting bodies known as carpophores.

The carpophores have historically been divided by the layman into toadstools or mushrooms, depending on whether they were poisonous or edible. This explanation is much too simple since some species are somewhat

poisonous before being cooked and not afterward. Some species are poisonous if consumed with alcohol, and some species are poisonous to some individuals and not to others; there is a high degree of idiosyncrasy. There are also reports of the same mushroom species producing toxicity in one part of the country and being considered a desirable edible elsewhere.<sup>2</sup>

So, depending upon whom, when, and where one is eating it, the particular carpophore may be either a toadstool or a mushroom. Of course, some species remain poisonous both before and after being cooked and some species are never poisonous.

Mushrooms have fascinated man since ancient times.<sup>2,3</sup> The mystery is compounded by their "magical appearance" seemingly overnight, by the "fairy rings" they form from particular types of spore distribution, and the reported spiritual qualities induced in remote civilizations in worship and battle preparation with the aid of hallucinogenic species. Mushroom poisoning has been written about from the time of Christ, and some say that Claudius (10 BC - A 54) was poisoned with a dish of mushrooms.<sup>4</sup>

Mushroom poisoning in North America has not been encountered as often as in certain European countries. In France and Germany, it is almost commonplace. In Germany alone, there are 200 cases of mushroom poisoning annually.<sup>4</sup>

Of the thousands of species of mushrooms that grow in North America, fewer than 100 are toxic and less than a dozen are associated with fatalities.<sup>2</sup> Some of these cause only

minor gastrointestinal upsets. The extremely poisonous ones, as well as the edible varieties, are readily accessible and grow in many lawns, meadows and parks. There are abundant look-alikes: poisonous varieties that look like the edible ones.

### Who Gets Poisoned

There are four groups of individuals most likely to be involved in mushroom poisoning. The first is the amateur forager gathering wild mushrooms to eat. This person may have had peer or parenteral exposure to mushrooms and simply gathers look-alikes by mistake. This error can usually be avoided by a course of instruction by an expert, or the use of a good handbook, and limiting those eaten to a few varieties of easily identifiable species. Look-alikes are avoided since there are ample choice edibles that don't need expert classification. These have characteristics that even a beginner can use to avoid confusion.

The second group of individuals involved in poisonings are less likely to be seen in a clinical setting. They are the ones who use mushrooms as recreational drugs. In healthy adults the experience is seldom fatal; however, children may experience more severe effects and fatalities have been reported.<sup>5</sup> A fatality has also been reported from confusing a deadly species for an hallucinogenic one.<sup>3</sup>

The third group is formed from the bizarre cases of mushroom poisoning occurring in individuals upon whom homicide is being attempted. While the fungi have not received the notoriety of arsenic or hemlock throughout

---

Correspondence: Dept. of Radiology, St. Mary's Medical Center, 3700 Washington Ave., Evansville, Ind. 47750.



history, they have been implicated on occasion. Claudius was mentioned in this regard previously. Lucrezia Borgia (1480-1519) used Angel Death (*Amanita phalloides*) to dispose of her political obstacles.<sup>1</sup>

A fourth group of possible poison victims are children in the grazing stage or toddlers who may inadvertently ingest poisonous fungi because they are attractive, different, and poisonous varieties may have no unpleasant taste. It has been reported that a part of a single mushroom cap of the deadly *Amanita* group can kill a child.<sup>4</sup>

#### Types of Poisoning

Seven types of mushroom poisoning are more or less commonly encountered.<sup>5</sup> Roughly, in order of decreasing severity, they are:

1. **Cyclopeptide poisoning.** This is caused primarily by *Amanita* (*A. phalloides*, *A. verna*, *A. verosa*), *Galerina*, *Conocybe*, and *Lepiota*.<sup>7</sup> Symptoms are delayed six to 12 hours after ingestion. Nausea, vomiting and bloody diarrhea usually occur. The initial symptoms then subside and the patient may seem well for two to four days when liver and kidney failure appear with associated jaundice, convulsions, coma, and death in 25% of cases.<sup>8</sup> No certain antidote for this type poison exists, though early diagnosis is possible using radioimmunoassay kits now available.<sup>9</sup> Treatment is ridding the digestive tract of the remains of the mushroom with gastric lavage and purgation. Activated charcoal appears to bind the toxin. Early hemoperfusion, hemodialysis, high dose steroids and thioctic acid have all been used with varying success.<sup>10</sup>

2. **Monomethyl hydrazine poisoning.** The species of the *Gyrometra* (False Morel) group are responsible. There is, again, a delay in the onset of symptoms from six to 12 hours after ingestion. Fatigue, headache, bloating, cramps, vomiting and diarrhea occur. Death may occur, but less often than with the *Amanita*.<sup>2</sup> Pyridoxine has been used as a treatment.<sup>7</sup>



The morel is an edible mushroom.

3. **Muscarine poisoning.** Species of *Inocybe*, *Clitocybe* and some *Amanita* contain this poison. Symptoms occur within one-half to two hours after ingestion. Excessive salivation, perspiration and tear formation occur, accompanied by visual disturbances and cramps. Atropine is used empirically to treat poison cases in many emergency rooms; however, this is the only form of mushroom poisoning for which atropine is effective.<sup>5</sup> In healthy adults, this type poisoning is seldom fatal.

4. **Ibotenic acid and muscimol poisoning.** This is caused by certain species of the infamous *Amanita* (*A. pantherina*, *A. muscaria*). The symptoms develop in one-half to two hours and include dizziness, lack of coordination, visual disturbance and deep sleep. Some people use this group of mushrooms recreationally, although the concentration of active compound varies widely. The real danger is misidentifying one of the deadly *Amanita* as this variety. Treat with physostigmine.<sup>7</sup>

5. **Psilocybin and psitocin** cause hallucinations, alterations in mood and sleep. They are the primary toxins of the recreational mushrooms. They have been used by the American Indians in religious ceremonies for thousands of years.<sup>11</sup> As pointed out

earlier, they are seldom fatal.<sup>2</sup> Species of the *Psilocybe* and *Gymnopilus* are in this group.

6. **Caprine poisoning** is easily avoided by not drinking alcohol for several days after eating the mushroom *Caprincis atramentarius*. It is a popular edible known as Inky Caps. Caprine interferes with the body's ability to breakdown acetaldehyde (as does antabuse). Nausea, vomiting and sweating are the principal symptoms. Treatment should be intravenous glucose. Propranolol has been recommended.<sup>7</sup>

7. **Gastrointestinal disturbance** is a catchall for poisoning of the digestive tract in which the chemistry is not well understood.<sup>5</sup> Nausea, vomiting and diarrhea are the principal symptoms and recovery is usually spontaneous. Many species fall into this category.

#### Summary

While mushroom poisoning has been an unlikely event in any medical practice, the fact that more people are eating wild mushrooms increases the chance. The extent of the problem is unknown and a significant crisis is unlikely, but awareness is essential if the victims are to be helped. In general, the more delayed the onset of symptoms, the worse the prognosis. The type and intensity of individual response and the variation in the levels of toxin in the same species, as well as the different kinds of toxins encountered in different species, makes diagnosis and treatment a dilemma.

Almost all cases of mushroom poisoning have initial symptoms of nausea, vomiting and some diarrhea. Initial treatment is directed toward cleansing the digestive tract of the remnants of the fungus and trying to establish the precise chemical constituents. If a sample of the mushroom can be obtained, an expert mycologist should be consulted. Gastric aspirate should be examined for spore content. Some experts can make species identification from the spores. Radioimmunoassay can identify the toxin,

Amanitin, of the deadly *Amanita* group. Further therapy must be directed toward correcting electrolyte imbalance and hypoglycemia.

Those who enjoy the forests, parks and out-of-doors should not be discouraged from gathering and eating wild mushrooms if so inclined. The amateur should obtain a good field guide on mushrooms and identify as many species as possible, if interested. However, he should eat only those he can identify with certainty that have no look-alikes. He should learn the *Amanita* and *Gyromitra* characteristics and avoid all species of these groups. No wild mushrooms should be eaten raw. If possible, take a course with an expert in a mushroom club or college.

A timeless warning is repeated in many essays on mushrooms:

*There are old mycophagists.*

*There are bold mycophagists.*

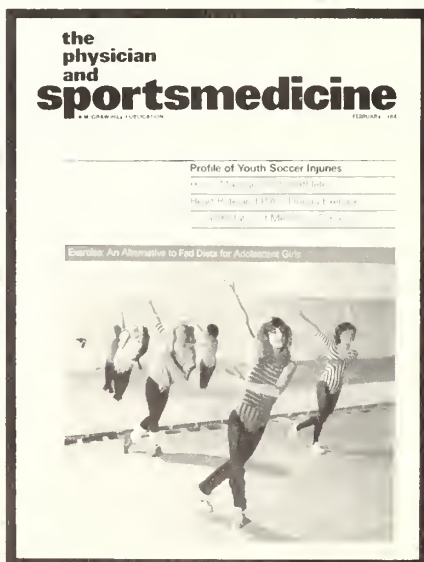
*There are no old bold mycophagists.*

One wag has added that our present body of knowledge of the poisonous mushroom has been largely a contribution of the bold mycophagist.

#### REFERENCES

1. Rosen S: *A Judge Judges Mushrooms*. The Highlander Press, Chicago, 1982.
2. Rumack B, Salzman E: *Mushroom Poisoning: Diagnosis And Treatment*. CRC Press, West Palm Beach, Fla., 1978.
3. Lincoff G, Nehring C: *The Audubon Society Field Guide To North American Mushrooms*. Alfred A. Knopf, New York, 1982.
4. Polson C, Tattersall R: *Clinical Toxicology*. Putnam Medical and Scientific Publishing, London, 1969.
5. Smith A, Weber N: *The Mushroom Hunter's Field Guide*. The University of Michigan Press, Ann Arbor, 1980.
6. Miller O, Miller H: *Mushrooms In Color*. E.P. Dutton, New York, 1980.
7. McGuigan M: Treatment of Poisoning. *Clinical Symposium*, 36:29, 1984.
8. Faulstich H: Mushroom Poisoning. *Lancet*, 8198:794-5, 1980.
9. Wilson T: Mushroom Poisoning. *Lancet*, 8195:640, 1980.
10. Hanrahan J, Gordon M: Mushroom Poisoning. *JAMA*, 251:1057-61, 1984.
11. Kulig K, Rumack B: Mushrooms. In Haddad L., Winchester J. (eds). *Poisoning And Drug Overdose*. W.B. Saunders Co., Philadelphia, 1983.

# OVER 66,000 FAMILY PHYSICIANS READ THIS JOURNAL



## Practical information on the medical aspects of fitness and exercise.

Tennis elbow: Joint resolution by conservative treatment.

Hypertrophic cardiomyopathy and the athlete.

Effects of sunscreen use during exercise in the heat.

Overuse injuries to the knee in runners.

How I manage ingrown toenails.







YEARS

Thank you for your loyal support

**DYAZIDE<sup>®</sup>**

25 mg Hydrochlorothiazide/50 mg Triamterene/SKF

**SK&F CO.**



# Motrin<sup>®</sup> 800 TABLETS mg

ibuprofen



**Extra strength**  
**Convenience**  
**Economy**



A Century  
of Caring  
1886-1986



# Abdominal Migraine

MICHAEL E. PAUSZEK, M.D.  
Franklin

**M**IGRAINE HEADACHES regularly affect 5% of the population, with 20% having an occasional attack. The two most common patterns recognized are the classic (10 to 15%), which is ushered in by neurologic symptoms, and the common (85 to 90%) without prodrome. Both are associated with abdominal symptoms including nausea, vomiting, pain and diarrhea. Both patterns respond to therapy with Ergot preparations early in an attack and prophylactically to beta blockers. There is a familial tendency and a predilection for women. The headaches are usually noted early in life and then diminish in frequency. The majority of patients note their onset before age 40. Attacks can be precipitated by stress, food, alcohol, sleep, menstruation and oral contraceptives. Between attacks the patient is normal.

The diagnosis is clinical, based upon the history of the attacks and response to therapy. No laboratory confirmation is available. A variety of episodic attacks have been ascribed to migraines including abdominal symptoms, chest and extremity pain and cluster headaches. Described here are two patients who presented with abdominal pain and appear to have abdominal migraine.

## Case History #1

A 35-year-old woman presented in July 1984 with a history of intermittent epigastric pain associated with

vomiting and diarrhea beginning at age 18. The pain was nonradiating, somewhat sharp in quality, unrelated to meals and lasted a few hours. She had experienced on average at least one episode each month. Occasionally, the episodes were nocturnal. There was no family or personal history of porphyria and no history of lead exposure. There was no history of migraine headache. She had been repeatedly hospitalized in the past for evaluation of the pain. Extensive evaluations including upper gastrointestinal series, oral cholecystogram and colonoscopy had been unrevealing. Both ulcerative colitis and "spastic colitis" had been considered in the past. She had been treated with multiple agents, including Sulfasalazine, without change in her discomfort pattern. Her initial physical exam was unremarkable. When seen a few months later during an episode her abdomen was mildly tender with diminished bowel sounds. That episode resolved spontaneously. The patient was treated with 40mg Nadolol daily with total ablation of her episodic symptoms. After three months of therapy she discontinued the drug because of insomnia. The episodic abdominal discomfort recurred.

## Case History #2

A 38-year-old woman was evaluated in September 1981 for epigastric discomfort with nausea and diarrhea. The discomfort was episodic, nonradiating and generally lasted two days. She was unable to maintain oral intake during the attacks. Four episodes had occurred in the year prior to evaluation. At least three of the episodes had been precipitated by stress (one by a speaking engagement). The pain appeared to improve in a fetal position. This pattern and frequency of

discomfort have become characteristic. She had a history of thyroidectomy and hysterectomy with unilateral oophorectomy. There is no history of migraine headache, porphyria or lead exposure. Her only chronic medication was thyroid extract. Her physical exam was unremarkable. Initial evaluation included oral cholecystogram, upper gastrointestinal series, sigmoidoscopy, barium enema series, serology, and screening laboratory data. All were unrevealing.

Abdominal migraine was considered and therapy with 80mg Propranolol daily was instituted in July 1982. She had no recurrence of symptoms over the subsequent three years, when the patient moved to Los Angeles and was lost to follow-up.

## Discussion

The evaluation of abdominal pain is a common outpatient exercise. When abdominal pain, nausea and vomiting occur in conjunction with head pain, it is easy to associate the symptoms and call it a migraine. However, when episodic abdominal symptoms occur without head pain, it is harder to define a relationship to migraine. The abdominal migraine syndrome was first described by Buchanan in 1921.<sup>1</sup> It is reported to be one of the most common migraine variants. The attacks usually start suddenly and, like typical migraines, are precipitated by stress and other factors. Individual episodes have been reported to last from one hour to four days and in the individual patient are always of similar duration and quality. The pain is epigastric or periumbilical. Commonly, there is associated nausea, vomiting and diarrhea, but fever, chills, polyuria, vertigo and irritability have all been reported. The episodes are self-limiting and respond prophylactically to beta blockers

Correspondence: Johnson County Internal Medicine, Inc., 1101 W. Jefferson St., Suite E, Franklin, Ind. 46131.

or early in attack to therapy with Ergotamine. The patients are normal between attacks of abdominal symptoms. Many patients have had laparotomy for the pain. Identification of a pain syndrome as a migraine equivalent is therefore of practical importance.

The frequency with which abdominal migraine variant occurs was addressed by Lanzi in review of abdominal symptoms in migraine patients, epilepsy patients and a control group.<sup>2</sup> Each group contained 100 subjects interviewed for retrospective accounts of cyclic abdominal pain and vomiting. In the migraine group there was a 30% incidence of abdominal pain and a 40% incidence of recurrent vomiting. No similar rate was noted in the other two groups. The study suggested that the episodic abdominal symptoms experienced by the migraine patients were likely to be a migraine equivalent. The relationship and frequency of abdominal symptoms was further evaluated by Lundberg and reported in a prospective study in 1975.<sup>3</sup> To identify the incidence of recurrent attacks of identical abdominal symptoms in migraine patients, 100 consecutive patients were specifically questioned regarding abdominal pain during and between headaches. A control group of 100 prospective patients with tension headache were similarly questioned. Twelve migraine patients (12%) and only one tension headache patient reported recurrent attacks of pain. All were evaluated further, none was found to have other identifiable

etiology for the pain. The migraine patients were then treated prophylactically with a variety of agents with diminished frequency or ablation of the attacks. Lundberg concluded that the recurrent abdominal symptoms were of migraine origin. After reviewing an additional 14 patients (total of 26), he defined in his summary his criteria for the diagnosis of abdominal migraine. The criteria he established included a personal history of migraine, family history of migraine, identical character of abdominal attacks lasting one to several hours, onset prior to age 40, no symptoms between attacks and pain localized to the upper abdomen.

It is notable that concomitant headache and a response to therapy were not included in his criteria for the diagnosis. He did require personal history of migraine headaches. This has not been a consistent requirement in other series. In a report of 10 patients in 1926, all had first degree relatives with migraine headache but not personal history of migraine.<sup>4</sup> All 10 patients responded with suppression of their abdominal symptoms with cannabis. In his review of migraine equivalence in 1965, Catino reported a history of migraine headaches in only 30% of the patients with abdominal migraine.<sup>5</sup>

This variability in the reported incidence of abdominal migraine syndrome and its relationship to head pain appears to result from the lack of clear definition of the pathophysiology of migraine syndrome. In his review of the migraine equivalence, Catino sug-

gested that they were equivalent to the pre-headache phase of constriction of the classic migraine headache.<sup>5</sup> Ischemia secondary to this constriction to Brodman's areas 3, 5, 6, and Diencephalon appears to be the mechanism of the abdominal migraine.<sup>5</sup>

#### Summary

Two patients with abdominal migraine are presented. Both responded to therapy with a beta blocker. The diagnosis of abdominal migraine should be included in a differential diagnosis of recurrent abdominal pain when:

1. A history of migraine headaches and/or family history of migraine exists in a first degree relative.
2. The attacks are always identical in quality and duration and begin before age 40.
3. The patient has no interval abdominal symptoms.
4. There is a response to therapy with a beta blocker prophylactically or acutely to Ergotamine.

#### REFERENCES

1. Buchanan JA: The abdominal crises of migraine. *J Nerv Ment Dis*, 54:406-412, 1921.
2. Lanzi G, et al: Cyclic vomiting and recurrent abdominal pains as migraine or epileptic equivalent. *Journal of Cephalalgia*, 3:115-118, 1983.
3. Lundberg PO: Abdominal migraine: Diagnosis and therapy. *Headache*, 15(2):122-125, 1975.
4. Blitzsten NL, Brams WA: Migraine with abdominal equivalent. *JAMA*, 86:675-677, 1926.
5. Catino D: Ten migraine equivalents. *Headache*, 5:1-11, 1965.

## INDIANA MEDICAL BUREAU

1010 East 86th St.—72 Winterton  
Indianapolis 46240  
844-7933

A Licensed Employment Agency  
Specializing in Medical Personnel

Since 1952





# “Not All Stock Investments Are Made On Wall Street”



*Robert R. Halderman*

Midwestern earth. In fact, last year, over 50% of our farm sales were made to investors.

Historically an excellent investment, American farmland is now at its lowest price in years. Interest rates are down and the selection of available properties is outstanding.

But realizing the maximum return on a farm investment means staying on top of the latest

developments in agriculture, finance and real estate. That's where we come in. For three generations and thousands of clients, Halderman Farm Management has been dedicated to efficient, profitable farm investments. We can aid you in the selection and acquisition of farm real estate, and offer a full range of management services—from an occasional consultation, to complete management of a farm operation. Currently we manage over 700 farms.

Now is the time to invest in American farmland. Halderman Farm Management can help make it profitable. That's been our business for over 50 years.”

**HALDERMAN  
FARM  
MANAGEMENT**

For further information call or write:

Robert R. Halderman  
Halderman Farm Management Service Inc.  
P.O. Box 297 Wabash, Indiana 46992  
(219) 563-8888

# Sick Sinus Syndrome

## Report of a Case with an Unusual Central Nervous System Symptom

ROBYN K. GOSHORN, M.D.  
Franklin

**A** 70-YEAR OLD white woman sought outpatient medical evaluation because of paroxysmal episodes of feeling as though she might fall.

These episodes had begun a year prior to evaluation. They never lasted more than a few seconds and were described as frequently lasting only an instant. They were of such severity that she found it necessary to hold on to some nearby solid object because of fear of falling. She perceived that her mental status remained normal during these episodes. She had observed that these episodes were more likely to occur during times of stress, such as when she was preparing food for a large number of guests. Episodes occurred up to several times per week though several weeks might pass between episodes. Between episodes she felt completely well. She denied true vertigo, syncope, tinnitus, diplopia, focal or generalized weakness and nausea. She lived independently and participated in numerous community activities.

Her family history was of interest in that two brothers died suddenly in their 50's.

She had no history of use of alcohol or tobacco. She had undergone a right radical mastectomy for breast cancer 20 years prior to evaluation and

bilateral knee replacement procedures two years prior to evaluation. She had had hypertension for many years and was taking Atenolol, 25 mg. daily and Dyazide twice a day, along with Anacin twice daily. There had been no recent change in her medicine regimen.

Her physical examination revealed a blood pressure of 130/74 in both arms and a pulse of 80 with no orthostatic change. Her ocular fundi, temporal arteries, tympanic membranes, temporomandibular joints and cervical spine were normal. Examination of the heart, carotid pulse and lungs revealed normal findings. Her thought processes were mildly tangential and circumstantial. Vibratory sense was absent in a stocking distribution. Her neurological examination was otherwise unremarkable.

Recent laboratory investigation had included a normal chest x-ray, 12 lead EKG, CBC, and SMA 12. A serum B12 level was normal at 384 pg./ml. and a fasting blood sugar was 134 mg./dl. The possibility of transient global cerebral ischemia was not initially considered as an explanation for her symptoms because of the brevity of the episodes and persistence of a normal level of consciousness during the episodes.

One month later she returned complaining that episodes of loss of balance were increasing in frequency. In addition, she complained of increasing fatigue, sleepiness and poor appetite. Her weight had decreased by four pounds.

Her physical examination was unchanged except for an irregularly irregular heart rhythm averaging 120 beats per minute. An electrocardio-

gram confirmed atrial fibrillation and she was admitted to the hospital for further evaluation. An echocardiogram revealed thickening of the aortic valve and mild left ventricular hypertrophy with a left ventricular internal dimension of 4.2 cm. During the first 24 hours of telemetry monitoring while lying in bed she experienced two of her typical episodes, each of which was associated with a five-second period of both atrial and ventricular asystole terminating atrial fibrillation and followed by resumption of sinus rhythm with normal AV conduction. The diagnosis of the tachy-brady variant of the sick sinus syndrome was made and a permanent transvenous ventricular demand pacemaker was placed. Digoxin was administered for control of her paroxysmal atrial fibrillation.

During 13 months of follow-up after pacemaker placement, she has had no further symptomatic episodes and in general has felt well.

This patient's presentation showed many features typical of the sick sinus syndrome including 1) her age and sex, 2) the periodic nature of her neurologic symptoms, 3) the onset of atrial fibrillation with constitutional symptoms suggestive of mild left ventricular failure and 4) periods of asystole with failure or subsidiary pacemakers.<sup>1,2</sup>

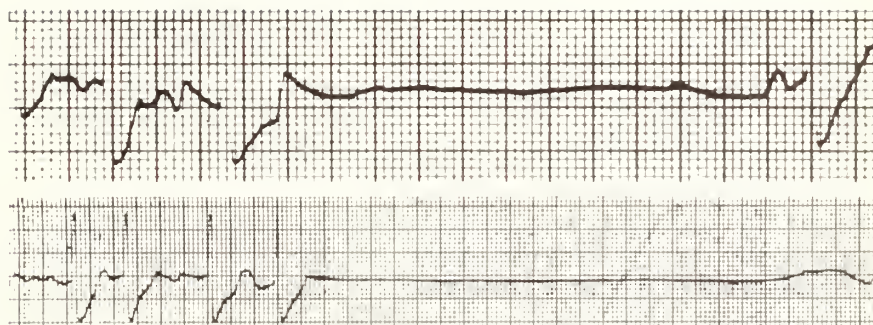
The most interesting feature of this case is the unusual neurologic symptom caused by her transient global cerebral ischemia. Paroxysmal dizziness and syncope are the most common neurologic manifestations of the sick sinus syndrome.<sup>3</sup> However, a spectrum of neurologic signs and symptoms including near syncope, irritability,

Correspondence: Internal Medicine Associates, Inc., 1101 W. Jefferson St., Suite E, Franklin, Ind. 46131.

fleeting memory loss, nocturnal wakefulness, slurred speech, pareses and errors of judgment can be precipitated by paroxysmal interruptions of cardiac output by either tachy or brady arrhythmias.<sup>2,4</sup> Focal atherosclerotic disease in the cervical or intracranial vessels may predispose such patients to have focal neurologic signs or symptoms as manifestations of generalized cerebral ischemia.<sup>5</sup>

This case emphasizes the need to consider cardiac arrhythmia as the possible etiology of any transient recurrent neurologic symptom, especially in the older age group.<sup>3</sup>

Long-term anticoagulation was considered in this patient because of the statistically significant increased risk of systemic embolization in patients with sick sinus syndrome.<sup>6,7</sup> A more conservative approach seemed justified because of the absence of any controlled clinical trial documenting that the benefits of anticoagulation outweigh the risks in this setting.



THE PATIENT'S electrocardiograms indicate sick sinus syndrome with an unusual central nervous system symptom.

#### REFERENCES

1. Rubenstein JJ, Schulman CL, Yurchak PM, DeSanctis RW: Clinical spectrum of the sick sinus syndrome. *Circulation*, 46:513, 1972.
2. Moss AJ, Davis RJ: Brady tachy syndrome. *Prog Cardiovasc Dis*, 16:439-454, 1974.
3. Walter PF, Reid SD, Wenger NK: Transient cerebral ischemia due to arrhythmia. *Ann Intern Med*, 72:471-474, 1970.
4. Ferrer MI: The sick sinus syndrome. *Circulation*, 47:635-641, 1973.
5. Van Durme JP: Tachy arrhythmias and transient cerebral ischemic attacks. *Am Heart J*, 89:538-540, 1975.
6. Fairfax AJ, Lambert CD, Leatham A: Systemic embolism in chronic sinoatrial disorders. *N Engl J Med*, 295:190-192, 1976.
7. Alpert MA, Flaker GC: Arrhythmias associated with sinus node dysfunction. *JAMA*, 250:2160-2165, 1983.

## Look-Alike and Sound-Alike Drug Names

**BENJAMIN TEPLITSKY, R. PH.**  
Brooklyn, N.Y.

Look-alike and sound-alike drug names can be misinterpreted by a nurse reading doctors' orders or by a pharmacist compounding physicians' prescriptions. Such misunderstandings can result in the administration of a drug not intended by the prescriber. Awareness of such look-alike and sound-alike drug names can reduce potential errors.

*Category:*  
*Brand Name:*  
*Generic Name:*  
*Dosage Forms:*

**METOCLOPRAMIDE**  
GI stimulant  
Reglan, Robins  
Metoclopramide  
Syrup, Tablets, Inj

**MECLOFENAMATE**  
Anti-inflammatory agent  
Meclomen, Parke-Davis  
Meclofenamate sodium  
Capsules

*Category:*  
*Brand Name:*

**QUININE**  
Antimalarial  
Quinamm, Merrell Dow

**QUINIDINE**  
Antiarrhythmic agent  
Quinidex Extentabs,  
Robins (as sulfate)  
Duraquin, Parke-Davis  
(as gluconate)  
Cardioquin, Purdue  
Frederick  
(as polygalacturonate)  
Quinidine  
Tablets, Capsules, Inj

*Generic Name:*  
*Dosage Forms:*

Quinine Sulfate  
Capsules, Tablets



# Percutaneous Transluminal Angioplasty for Vasculogenic Impotence

GARY J. BECKER, M.D.<sup>1</sup>  
DAVID M. ROWE, M.D.<sup>1</sup>  
ROBERT W. HOLDEN, M.D.<sup>1</sup>  
MICHAEL C. DALSING, M.D.<sup>2</sup>  
PHILLIP J. BENDICK, Ph.D.<sup>2</sup>  
Indianapolis

**I**MPOTENCE IS DEFINED as the inability to achieve or maintain an erection suitable for intercourse. Approximately 10% of adult males (10 million in the United States) are affected. In Indiana alone, it is estimated to affect 250,000 men.<sup>1</sup> The overwhelming majority of cases are secondary or acquired rather than primary, which is rare. The problem increases in incidence after age 55, and most men have difficulty with sexual performance before age 70.<sup>1,2</sup> Two-thirds of men under 70 and one-third over 75 engage in regular sexual activity.<sup>2</sup> Impotence may thus represent a significant health problem to those affected.

To appreciate the pathologic states responsible for impotence, one needs to understand the components of normal sexual function. Normal erections require adequate psychological stimuli, sufficient sex hormones, intact innervation, and adequate circulation to the penis.<sup>4</sup> Prior to the advent of modern diagnostic measures, it was thought

From the Depts. of Radiology<sup>1</sup> and Surgery,<sup>2</sup> Indiana University Medical Center, Indianapolis.

Publication partially subsidized by a Dept. of Radiology fund and by the Indiana Medical Foundation.

Correspondence: Gary J. Becker, M.D., Dept. of Radiology, University Hospital X64, 926 W. Michigan St., Indianapolis, Ind. 46223.

TABLE 1<sup>1,2</sup>  
Causes of Organic Impotence

1. DRUGS:	Alcohol, anticholinergics, antidepressants, antihypertensives, barbiturates, estrogens, marijuana, narcotics, tranquilizers, sympatholytics, antineoplastics, antiepileptics, antihistamines.
2. ENDOCRINE:	Diabetes mellitus, hyperprolactinemia, androgen deficiency, other
3. SURGICAL:	Aortoiliac bypass, radical prostatectomy, AP resection, cystectomy, penectomy, rhizotomy, sympathectomy, sphincterotomy
4. PENILE:	Priapism, Peyronie's disease, trauma
5. RENAL FAILURE	
6. NEUROLOGIC DISEASE:	Spinal cord injury, multiple sclerosis, Parkinsonism, epilepsy (particularly temporal lobe), malignancy, other
7. VASCULAR DISEASES:	Hypertension, aorto-iliac occlusive disease

that the vast majority of impotence was psychogenic. We now know that as many as 75% of cases are due to organic causes.<sup>4,5</sup> Table 1 lists organic causes of impotence. Among these, vasculogenic impotence is a major subgroup which can be initially evaluated by non-invasive physiologic means, confirmed angiographically, and successfully treated by percutaneous transluminal angioplasty (PTA), bypass surgery or microvascular surgery. The optimum treatment depends largely on the angiographic findings and the presence or absence of complicating systemic disease such as diabetes.

## Vasculogenic Impotence

Vasculogenic impotence is now recognized as a major sequela of atherosclerotic disease in a significant

number of patients with occlusive aorto-iliac-femoral and pelvic disease. Table 2 traces the historical events leading to our present understanding of the importance of vascular occlusive disease as an etiology of impotence.

The reported frequencies of vasculogenic etiology for impotence vary widely from one series to another. Some state the frequency is approximately 25% (76), while others report that it is considerably higher (77). Table 3 is from a series by Gray, *et al* (77). Regardless of the precise incidence, it is clear that vasculogenic causes comprise an important proportion of the patients with impotence.

Since vasculogenic impotence has been identified as a major subgroup, numerous reports of experience with various revascularization procedures have appeared in the literature.<sup>8-12</sup>

Procedures include internal iliac endarterectomy, femoro-pudendal bypass, revascularization of the corpus cavernosum with epigastric arteries, saphenous vein graft, and basilic vein graft, to mention a few. In addition to these, Castaneda Zuniga, *et al* reported their success using PTA in the treatment of two patients with vasculogenic impotence in 1982.<sup>13</sup> Since that time we have successfully employed PTA in a selected population of patients. With this in mind, we shall proceed with our description of an appropriate diagnostic schema for impotence—one that guides us to employ management techniques that are specific for the etiology.

#### Diagnostic Schema for Impotence

We have developed a logical progressive evaluation to select the specific patient population with vasculogenic impotence most likely to benefit from PTA or surgery. This diagnostic schema, summarized below, follows a logical progression from history and physical exam, to non-invasive monitoring, and finally angiography in that sub-group of patients with the highest likelihood of having correctable vascular lesions.

**1. History:** Oftentimes the history is all that is needed to lead the physician to proper differentiation between organic and psychogenic impotence. Psychogenic impotence is characterized by: abrupt onset, presence of morning erections, and adequate erectile activity at one time and deficient activity at another. Organic impotence is characterized by: gradual onset (months or years), shortened erection duration, and absence of morning erections.

**2. Physical Examination:** In most cases, physical examination of the genital region in patients with impotence is normal. However, in some instances, physical examination may provide evidence of vascular insufficiency, Peyronie's disease, or sensory deficit in the perineum or genitals indicating the possibility of neurogenic etiology.

TABLE 2  
Important Events

1923:	Leriche described association of obstructive vascular disease and erectile impotence
1969:	May, <i>et al</i> reported that 70% of patients with aorto iliac occlusion have impotence
1969:	Carstensen described relief of impotence after bilateral internal iliac endarterectomy in a series of patients
1973:	Michal, <i>et al</i> described histologic and angiographic findings implicating arterial disease in high percentage of impotence
1978:	Cohen, <i>et al</i> found that angiography demonstrates obstruction of arteries to the penis in subgroup of patients with impotence

**3. Laboratory Testing:** Serum testosterone and prolactin need only be obtained in patients with loss of libido and/or deficient secondary sex characteristics. Even in this subgroup, the laboratory yield is low.

**4. Nocturnal Penile Tumescence Monitoring (NPT):**<sup>14,15</sup> This technique measures volume changes in the penis that occur during sleep. Volume increases are due to the occurrence of erections during REM sleep (20% of sleep time) in all normal males over the age of 2. Absence of such increases indicates inability to achieve an erection. Therefore, an abnormal NPT indicates an organic etiology of the patient's impotence, although there are sources of error with this test.<sup>16,17</sup> For example, in a small percentage of patients, seemingly normal volume increases occur without adequate rigidity during NPT

monitoring. Such patients may be said to have false negative NPTs. Despite its limitations, NPT is the best screening test we have for organic impotence. The test employs a mercury filled strain gauge at the base of the penis and another at the corona. A stylus graphically records volume changes occurring in the penis. *Figure 1A* demonstrates a normal, and *Figure 1B* an abnormal NPT tracing. Patients with positive NPT (organic impotence) must then be categorized according to etiology so that appropriate treatment may be instituted.

**5. Sacral Latency Test (SLT):** This test is designed to identify causes of impotence due to neuropathy (diabetic autonomic neuropathy included). A needle electrode inserted into the bulbocavernosus muscle causes an evoked muscle potential in less than 40 msec in normals and greater than 40 msec in patients with neurogenic impotence.

**6. Noninvasive Vascular Laboratory Assessment:** Because of the discomfort associated with SLT, noninvasive vascular testing is probably the next logical step to follow positive NPT. Indirect information such as severe aortoiliac disease by Doppler in a patient with a history of impotence likely means a vasculogenic etiology. Direct information is gleaned by measuring arterial pressure in the penile arteries.<sup>18,20</sup> This is done by deflating a small blood pressure cuff at the base

TABLE 3  
Causes of Impotence

Vasculogenic	45 (37.5%)
Diabetic	24 (20.0%)
Psychogenic	14 (11.7%)
Peyronie's, priapism	14 (11.7%)
Neurogenic	8 (6.7%)
Testosterone deficiency	4 (3.3%)
Malignancy	7 (5.8%)
Trauma	4 (3.3%)
Total	120 (100%)



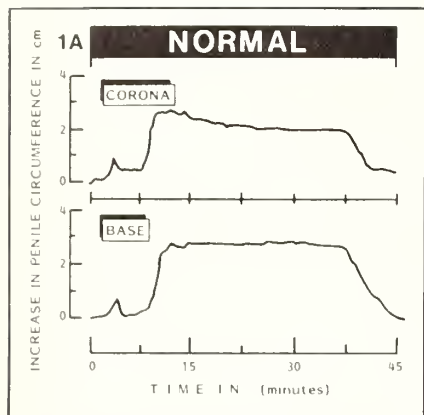


FIGURE 1A: Example of normal NPT demonstrates increase in penile circumference occurring with nocturnal erections.

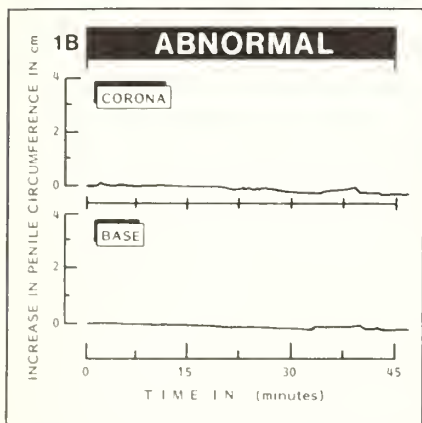


FIGURE 1B: Abnormal NPT reveals absence of increase in penile circumference indicating lack of nocturnal erections, compatible with organic impotence.

of the penis while listening for the reappearance of the Doppler signal in the penile arteries distally. In normals, the penile pressure is 20 mmHg less than brachial pressure. A penile/brachial index (PBI) of less than 0.65 is widely accepted as abnormal. The frequency of false negatives is 31%, so it would seem that one cannot base a decision whether to proceed to angiography on Doppler results alone. However, the false positive frequency is about 0%. This means that Doppler abnormalities are almost always

associated with angiographic abnormalities. Pulse volume recordings (PVR) like the ones done in the noninvasive vascular laboratory for lower extremity occlusive disease are helpful. Figure 2A is a normal and Figure 2B an abnormal PVR tracing. Other noninvasive tests include radionuclide flow studies,<sup>21</sup> duplex ultrasound,<sup>22</sup> and penile temperature measurements. We have not utilized these methods.

**7. Angiography:** In patients with positive NPT and positive or equivocal noninvasive studies, pelvic angiography provides the final assessment. Before discussing pelvic angiography in the assessment and treatment of vasculogenic impotence, we must review a few pertinent details regarding the vascular anatomy and function of the penis. Each internal pudendal artery supplies three arteries to the penis: (1) a superficial dorsal artery to the penis, (2) a deep cavernosal artery, and (3) an artery to the corpus spongiosum. Therefore, there are normally three pairs or six arteries to the penis.<sup>6</sup> Figure 3 demonstrates this arterial supply.

The relative importance of arterial inflow and venous outflow in vasculogenic impotence has not been determined.<sup>23</sup> They probably vary from one case to another. It is known that in the flaccid state, arteriovenous shunts allow blood to bypass the corpus cavernosum, and flow outward via the veins of the corpus spongiosum. During erection, the shunts close and blood is directed to the corpus cavernosum.<sup>24</sup> Despite the uncertainty, most emphasis has been placed on diagnosis and management of arterial inflow problems. We have followed this lead.

Angiography is undertaken with the understanding that a treatable cause of impotence is being sought. In one series of 120 patients,<sup>7</sup> 73 were suspected of having a vasculogenic etiology. All underwent aortography and selective internal iliac angiography. Of the 73, only nine (12%) had normal arteriograms. Thirty-two (44%) had stenotic lesions or occlusions in the

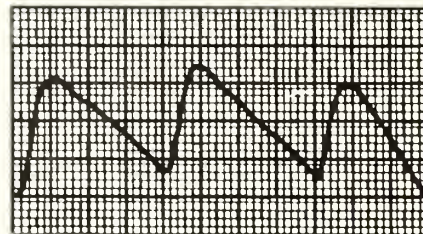


FIGURE 2A: Normal PVR tracing demonstrates the usual volume changes occurring in the penis with systole and diastole.

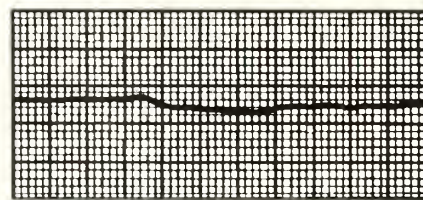


FIGURE 2B: Abnormal PVR tracing reveals lack of normal change with systole and diastole.

large arteries (iliac or pudendal). This group represents patients whose impotence is potentially amenable to revascularization by surgery or PTA. The remaining 32 (44%) had small penile artery stenoses or occlusions. Impotence in this group is potentially amenable to direct corpus cavernosum surgical revascularization or medical therapy with vasodilators. The following cases demonstrate the efficacy of PTA in the treatment of the relatively large subgroup above with significant inflow lesions.

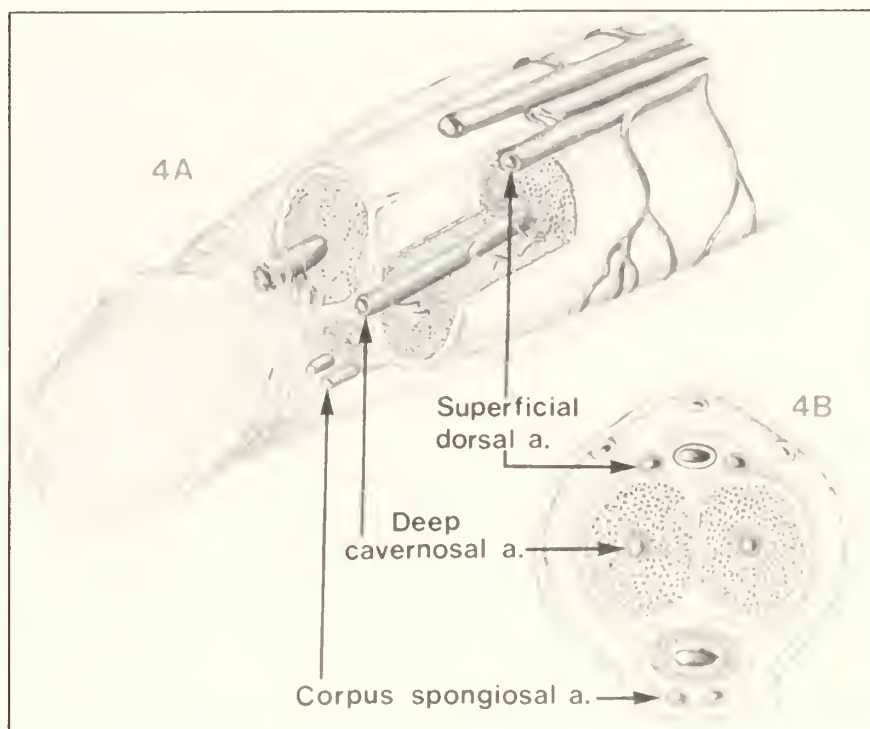
#### Case Presentations

**CASE 1:** W.T. is a 61-year-old male with bilateral hip claudication and impotence. Doppler ankle/brachial indices were 0.40 on the right and 0.39 on the left. The penile pressure was 80 mmHg systolic, with a PBI of 0.51. Doppler studies also revealed bilateral superficial femoral artery occlusions. Figure 4A is the normal pulse volume recording of the patient's left middle finger, compared with Figure 4B, which demonstrates his abnormal penile PVR tracing. With these findings, a subsequent angiogram revealed bilateral in-



ternal and external iliac stenoses. (Figures 5A and 5B). Employing a bilateral femoral and left transaxillary approach with "kissing balloons" technique, bilateral internal and external iliac PTA's were performed. Post-PTA angiogram (Figure 6A) demonstrates marked improvement in the angiographic stenoses. The penile Doppler pressure rose to 185 mmHg with a PBI of 1.0. The penile PVR tracing (Figure 6B) was improved, and the patient's sexual function returned to normal. Because of his bilateral superficial femoral artery occlusions, the ankle/brachial ratios only increased to 0.44 on the left, and 0.50 on the right. The patient was discharged to be considered later for bilateral femoropopliteal grafts. Follow-up DSA (Figure 7) three weeks post-PTA reveals an excellent cosmetic result.

**CASE 2:** K.T. is a 42-year-old male with bilateral calf claudication at  $\frac{1}{2}$  block walking and a six-month history of impotence manifested by difficulty achieving erection, inability to maintain erection, and absence of morning erections. Doppler ankle/brachial indices were 0.66 on the right and 0.75 on the left. A pre-PTA angiogram discloses bilateral iliac stenoses and poor filling of the internal iliac on the right (Figure 8A). After bilateral iliac PTA (Figure 8B), there is improved internal iliac filling and visualization of arteries to the penis (arrows). The cosmetic result in the right common iliac is only fair, as might be expected from the eccentric configuration of the plaque. Residual systolic pressure gradients were 10 mmHg on the right, and 0 mmHg on the left. On the morning following PTA, the patient awoke with



**FIGURE 3:** Arterial supply to the penis. See text for description.

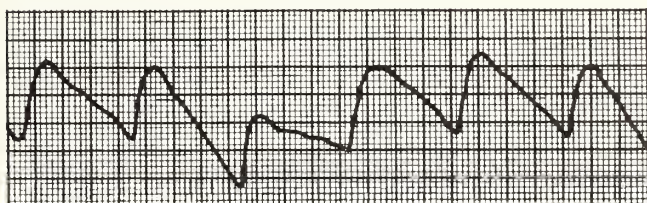
an erection for the first time in over six months.

#### Discussion

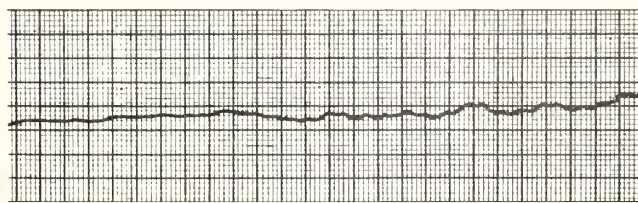
Impotence is more ubiquitous than was appreciated prior to the new awareness of sexuality. Many late middle-aged and elderly men have normal libidos, yet impaired sexual ability. Diagnosis has improved and it is now not only possible to differentiate situational impotence from organic, but to determine specific etiologies of organic impotence. The diagnostic schema presented above can identify those patients with vasculogenic inflow problems. Furthermore, treatment

methods have proliferated, and it is now clear that treatment choices need to be based upon etiologies. Situational impotence may be handled by counseling and other appropriate noninvasive measures. Drug-induced impotence is managed by withdrawing the offending agent. Post-surgical impotence and neurogenic impotence are amenable only to penile prostheses, such as the inflatable prosthesis.<sup>29</sup> Unfortunately, this prosthesis is often used in cases of vasculogenic impotence which could be successfully treated with PTA or surgery.

A vasculogenic etiology for impotence should be entertained in any



**FIGURE 4A:** Normal PVR of patient W.T. left finger. Compare with Figure 2A.



**FIGURE 4B:** Abnormal penile PVR in same patient.

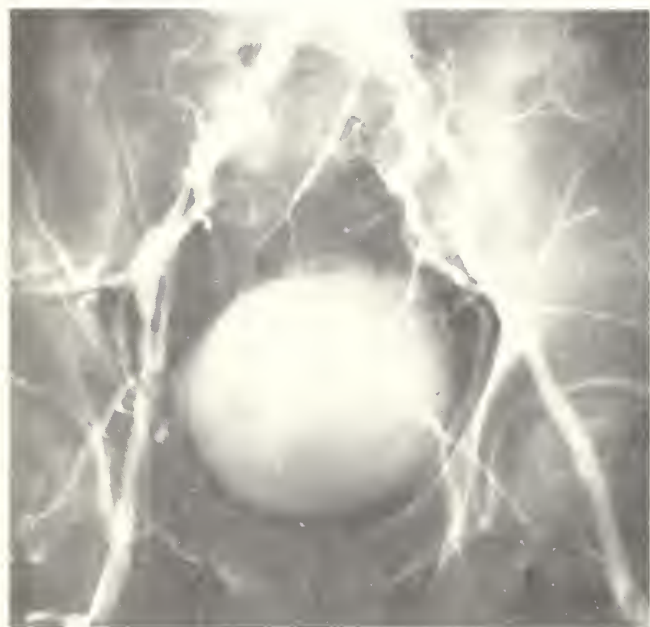


FIGURE 5A: Pelvic arteriography reveals bilateral internal and external iliac stenoses. The left stenoses are shown to better advantage on this AP projection.



FIGURE 5B: The right stenoses are better seen on this oblique view.



FIGURE 6A: Post-PTA angiogram demonstrates marked improvement in the angiographic stenoses.

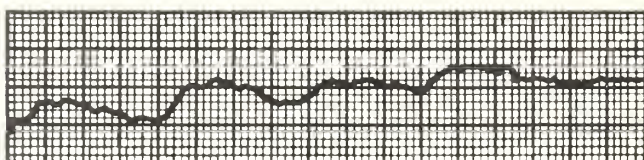


FIGURE 6B: The penile PVR tracing demonstrates improvement post-PTA.

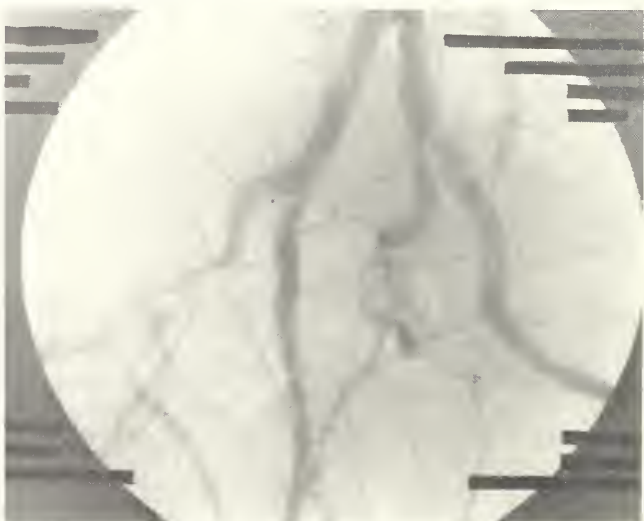


FIGURE 7: Follow-up DSA three weeks post-PTA reveals excellent cosmetic result.





FIGURE 8A: Pre-PTA angiogram demonstrates bilateral iliac stenoses and poor filling of the internal iliac on the right.



FIGURE 8B: Note improved internal iliac filling (arrow) in the early phases.



FIGURE 8C: Note improved internal iliac filling (arrows) in the late phases.

patient with other clinical signs and symptoms of atherosclerotic vascular disease. In fact, our experience shows that many patients with severe internal iliac or pudendal stenosis, when questioned after routine aortoiliac angiography, will admit to either impotence or declining erectile function. The diagnostic schema presented above should be employed prospectively in patients presenting with the complaint of impotence. However, it may also be used to confirm an organic etiology in patients who retrospectively admit to erectile dysfunction when questioned after angiography demonstrates inflow lesions. PTA can then be offered to those patients who desire treatment. Those patients with significant stenoses of the large vessels supplying the penis, most commonly the internal iliacs, can enjoy restoration of potency following successful PTA, without the need for surgery or a prosthesis. The subgroup with small vessel disease is better treated with microvascular techniques of revascularization.

PTA offers a new method of treatment for a significant proportion of patients with a potentially correctable cause of impotence, without the need for surgery or reliance on a prosthesis.

Importantly, there is little information available concerning the long-term success of revascularization procedures including PTA. While preliminary results of PTA are excellent, evaluation of the long-term benefit requires a large study population.

#### REFERENCES

1. Mulcahy JJ: The diagnosis and management of impotence. *Journal of the Indiana State Medical Association*, 76:251-254, 1983.
2. Benson RC: An updated approach to correcting impotence in elderly men. *Geriatrics*, 40(2):87-102, 1985.
3. Casey WC: Revascularization of corpus cavernosum for erectile failure. *Urology*, 14(2):135-139, 1979.
4. Spark R, White R, Connolly P: Impotence is not always psychogenic. *JAMA*, 243:750-754, 1980.
5. Slag M, Morley J, Elson M, et al: Impotence in medical clinic outpatients. *JAMA*, 249:1736-1740, 1983.
6. Miller K, Kaplan L, Weitzman AF, Sequeira J, Kossoff J: The radiology of male impotence. *Radiographics*, 2(2):131-152, 1982.
7. Gray RR, Keresteci AG, St. Louis EL, et al: Investigation of impotence by internal pudendal angiography: Experience with 73 cases. *Radiology*, 144:773-780, 1982.
8. Carstensen G: Die Behandlung der Impotentia Coeundi Durch Wiederherstellung der Blutstrombahn in der Arteria Iliaca Interna. *Langenbecks Arch Chir*, 325:885-888, 1969.
9. Michal V, Kramer R, Pospichal J: Femoro-pudendal bypass, internal iliac thromboendarterectomy, and direct arterial anastomosis to the cavernous body in the treatment of erectile impotence. *World J Surg*, 33:343-350, 1974.
10. LeVeen HH, Diaz C: Treatment by corpus cavernosum revascularization. In: Zornigotti AW, Rossi G, eds. *Vasculogenic impotence*. Springfield, IL: Thomas, 217-233, 1980.
11. Michal V, Kramer R, Pospichal J, et al: Arterial epigastricocavernous anastomosis for the treatment of sexual impotence. *World J Surg*, 1:515-520, 1977.
12. Sharlip ID: Penile revascularization in the treatment of impotence. *West J Med*, 134:106-211, 1981.
13. Castaneda WR, Smith A, Kaye K, et al: Transluminal angioplasty for treatment of vasculogenic impotence. *AJR*, 139:371-373, 1982.
14. Knepp D, Gonick P: Home monitoring of penile tumescence for erectile dysfunction. *Urology*, 14:261, 1979.
15. Karacan I, Hirsch CJ, Williams RL, Thornby JJ: Some characteristics of nocturnal penile tumescence in young adults. *Arch Gen Psychiat*, 26:351, 1972.
16. Wein AJ, Fishkin R, Carpiello VL, Malloy TR: Expansion without significant rigidity during nocturnal penile tumescence testing: A potential source of misinterpretation. *J Urol*, 126:243, 1981.
17. Dhabuwala CB, Ghayad P, Smith JB, Pierce JM Jr: Penile calibration for



- nocturnal penile tumescence studies. *Urology*, 22(6):614-616, 1983.
18. Gaskell P: The importance of penile blood pressure in cases of impotence. *Can Med Assoc J*, 105:1047, 1971.
  19. Abelson D: Diagnostic value of the penile pulse and blood pressure: a Doppler study of impotence in diabetics. *J Urol*, 113:636, 1975.
  20. Engel G, Burnham SJ, Carter MF: Penile blood pressure in the evaluation of erectile impotence. *Fertil Steril*, 30:678, 1978.
  21. Nseyo UO, Wilur HJ, Kang SA, Flesh L, Bennett AH: Penile xenon ( $^{133}\text{Xe}$ ) washout: A rapid method of screening for vasculogenic impotence. *Urology*, 23(1):31-34, 1984.
  22. Lue TF, Hricak H, Marich KW, Tanagho EA: Vasculogenic impotence evaluated by high resolution ultrasonography and pulsed Doppler spectrum analysis. *Radiology*, 155:777-781, 1985.
  23. Wagner G, Uhrenholdt A: Blood flow measurement by clearance in the human corpus cavernosum in the flaccid and erect state. In: Zorngniotti AW and Rossi G, eds. *Vasculogenic Impotence: Proceedings of the First International Conference on Corpus Cavernosum Revascularization*. Springfield, Ill., Charles C Thomas, 1980.
  24. Gregory JG: Impotence: The surgical approach. *Surg Clin No Am*, 62(6):981-998, 1982.
  25. Beutler LE, Scott FB, Karacan I, Baer PE, Rogers RR Jr, Morris J: Women's satisfaction with partner's penile implant: Inflatable vs noninflatable prosthesis. *Urology*, 24(6):552-558, 1984.

## BOOK REVIEW

### Physician's Handbook

By Marcus A. Krupp, M.D., et al. 21st edition copyright 1985, Lange Medical Publications, Los Altos, Calif. 800 pages, softcover, \$16.50.

Here is another book bargain. It is, no doubt, already in the hands of most medical students and recent graduates. Older practitioners, such as this reviewer, will recognize it as taking the place of the old Merck Manual, to which it is much superior. There is hardly any clinical situation, particularly the critical ones, for which it will not give condensed, useful information.

Among its 33 chapter headings one finds such titles as Emergency Medical Examination, Neurologic Diagnosis, Electrocardiography, Endocrine Function Tests, Cerebrospinal Fluid Examination, Medical Mycology, Radioisotopes, Drugs and Hormones, Medical Genetics. Inside the front cover are tables of normal hematologic and blood chemistry values. The appendix presents such things as conversion tables, average height and weight of children and adults, elements and atomic weights, body surface area normograms.

As an example of what material the chapters cover one might cite the one in Poisons and Toxins. We are advised to "treat the patient, not the poison ingested." One must learn as much as possible about the circumstances of the

presumed poisoning, then proceed at once to a careful physical examination, looking for such vital signs as respiratory function, pupillary responses, bowel sounds, changes in cardiac rate and rhythm, neurologic status. Be sure the patient is, indeed, poisoned.

Before antidotes, which may in themselves be toxic, are administered one should do the things necessary to keep the patient alive and prevent further tissue damage, CPR if indicated, stomach lavage for suspected ingested poisons, removal of contaminated clothing, wash eyes when they are involved, etc.

Treatment of specific poisonings is outlined beginning with the more common ones such as ethyl and methyl alcohol, alkalies, antidepressants, arsenic, and mercury, belladonna, carbon tetrachloride, carbon monoxide, depressants, anticoagulants, cyanide, household products, and the like. Then in less detail the less common drugs are considered.

The management of mite and spider bites and snake bites, poisonous mushroom ingestion, solvents, etc. is also adequately covered. The listed number of common plants that may be toxic is surprising. Among them are calla lily, castor bean, foxglove, ginseng weed, larkspur, mandshood, oleander, rhododendron. How to combat these toxic effects is in outline form.

Lest one has the impression that this

is primarily a first aid manual, one might cite the chapter on Immunologic Diagnostic Methods. The proper manner of drawing blood is described, then various methods of detection of antigen and antibody are presented in capsule form. They include immunodiffusion, radial diffusion, electrophoresis and counter immunoelectrophoresis, density determination after ultracentrifugation, radioimmunoassay, immunofluorescence, enzyme linked antibody, direct and indirect agglutination, complement fixation, and "hybridoma" techniques for detection of monoclonal antibodies. Details of the techniques of the various tests are not given. However, examples of the clinical aberrations in which they are indicated and interpretation of the results will be most helpful to the clinician. What is to be learned in both treponemal (e.g., TPI) and nontreponemal (non-specific antigen) tests in acquired and congenital syphilis should be useful to those confused in management of this complex disease.

The very brief reviews of two of the chapters in the Lange Physician's Handbook hopefully will give some idea of the kinds of help one may expect from it. The volume is 7½ by 4½ inches in lateral dimensions and 1¼ inches thick. It will fit in the hand bag of most practicing physicians. In my opinion it belongs there.—Paul S. Rhoads, M.D., Richmond



## **“...Your financial security specialists are on call”**

American Physicians Life believes a physician's financial security deserves specialized attention. That's why our products and services are designed with the doctor in mind. Our comprehensive portfolio of services, including life insurance, professional disability income coverage, qualified plans and tax-deferred annuities, is customized to meet your personal financial planning needs as well as those of your professional corporation.

Let American Physicians Life secure your financial planning program—that's our specialty!

**For more information contact:**

Williams/Townsend Associates  
8900 Keystone Crossing, Suite 500  
Indianapolis, Indiana 46240  
(317) 844-3119

**Endorsed by the  
Indiana State Medical Association**



**AMERICAN PHYSICIANS LIFE**

Bates Drive, P.O. Box 281  
Pickerington, Ohio 43147  
Telephone (614) 864-3900

Toll-free in Ohio, 1-800-282-7515  
Toll-free outside Ohio, 1-800-742-1275

# Don Foy, ISMA's Man in Touch

## Executive Director to Assume New Post in New York

---

PAUL SIEBENMORGEN, M.D.  
President  
Indiana State Medical Assn.

---

*"There are those people who pass through your life and are gone. And then there are those who leave their footprints on your heart, and you will never be the same."*

IF ANYONE HAS LEFT his footprints on the heart of the Indiana State Medical Association, it is Don Foy. ISMA's executive director since 1976 announced in December that he had accepted the post of executive vice president of the New York State Medical Association. He will begin his new job April 1. While we in the ISMA hate to see him go, the Association's officers, membership, Auxiliary and staff wish him well in his new position.

For the last 10 years, "Don has devoted himself lock, stock and barrel," as one staffer put it, to the ISMA. Highly regarded as someone who is firmly in touch with the issues of medicine, Don Foy also has displayed a keen understanding of what physicians are thinking. He has the ability to absorb and recall tremendous amounts of data, whether it concerns the latest changes in Medicare regulations or discusses the impact of alternative health care delivery systems on private practice.

Don Foy realized early on the implications of increased federal regulation of the medical profession. In spite of that onslaught and the increasing



Donald F. Foy  
1978

challenges to organized medicine it presents, he has continued to translate the desires of ISMA members into programs that maintain the viability of their association.

It is appropriate to reflect on some of the advances made at ISMA during Don Foy's tenure.

One factor, perhaps more than any other, has set Indiana apart from other states. That, of course, is PL 146, the professional liability law. This law was tested and ISMA, along with other groups, was successful in defending its provisions.

In addition to ISMA's support of PL 146, the Association established the Physicians Insurance Company of In-

diana (PICI) to provide liability insurance for members.

Society-sponsored life insurance for members became available with ISMA's partnership in the American Physicians Life Insurance Company.

Don Foy has encouraged the development of contacts between the ISMA and other groups. Through the Indiana Task Force on Health Care Costs, representatives from industry, labor, government, health insurance, hospitals, physicians and the general public meet to examine the causes of increased health care costs and ways to reduce the escalation.

The Indiana Business Medicine Coalition is a joint effort with the five top Indiana corporations to discuss the impact of medical costs on business and industry.

Don Foy also has been supportive of continued association with such groups as the Indiana Federation of Older Hoosiers and the American Association of Retired Persons. He has won the respect of members of these groups because of his knowledge about medical issues affecting them and his willingness to listen to their concerns.

Because ISMA is concerned with continued regulation and licensing in the medical profession, Don Foy assigned an ISMA attorney to serve as liaison with the Medical Licensing Board.

Within the ISMA, Don has surrounded himself with a professional staff. As a result, advances have been made in membership, legislation, public relations and field services.

Membership has increased from 4,922 to 6,467. Membership files have been computerized making not only





1976



1978



1981

FILE PHOTOS

record-keeping, but contact with our members, much more efficient.

Lobbying efforts in the Indiana General Assembly were fortified when two staff members were added, one an attorney, the other a former legislative aide who has an insider's understanding of public policy. IMPAC, ISMA's political action committee, has become increasingly influential.

Don Foy has encouraged the development of new public relations programming that positions doctors as their patients' medical care advocate. Two full-time professionals work to improve physicians' visibility through such programs as a PBS television series; public service announcements and taped radio news actualities on medical issues.

Three field representatives now call on ISMA members throughout the state. In addition to determining how

ISMA can service its members, the field staff also recruits new members.

Realizing the resource available to ISMA through its Auxiliary, Don has supported a closer working relationship between the two associations. Auxiliary members are now involved on various ISMA commissions and committees as well as in the ISMA Key Contact legislative programs.

Aware of the importance of continually marketing the advantages of ISMA membership, Don Foy has understood the necessity of developing an interest in organized medicine on the part of both medical students and Residents. During his tenure, both the Resident Medical and Student Medical Societies have developed into active organizations.

The list of Don Foy's contributions to ISMA goes on and on. It serves as much as a reminder to us of what we

are losing as it is a chronicle of the managerial and organizational skills New York is getting.

We in Indiana have always given away the best we have to offer—the music of Hoagie Carmichael and Cole Porter; the sports prowess of Oscar Robertson, Johnny Wooden and Larry Bird; the poetry of James Whitcomb Riley. And so, to New York, we present Don Foy.

We will sorely miss him, but we certainly send with him our best wishes for continued success in the years ahead.

I would be remiss if I did not mention Don's wife, Frances, a gracious lady with a captivating smile and a lilting Irish accent. Frances has not only extended the Foy's hospitality to us over the years, but she introduced us to real Irish coffee!

# THE AIR FORCE FLIGHT SURGEON

As an Air Force Flight Surgeon you will have a truly general practice in your office. In the air you'll fly with and observe air crew members — adding a new perspective to your medical career.

Without the headaches of office overhead and paperwork, with 30 days of vacation with pay each year, with time for your family, with medical and dental care, low cost life insurance, and a generous non-contributory retirement program. Maybe it's about time to give your life a new perspective.



To qualify as an Air Force Flight Surgeon, you must:

- \* be a United States citizen
- \* have completed one year of clinical postgraduate education, such as an internship or flexible postgraduate year.

APPLICATIONS ARE BEING ACCEPTED NOW

Contact: Captain Scott Simpson  
47 S. Pennsylvania, Suite 2  
Indianapolis, IN 46204  
(317) 269-6164/6354  
Outside area call collect

**AIR**  
**FORCE**  
A great way of life.



# BALANCED CALCIUM CHANNEL BLOCKADE!



**CARDIZEM**  
(diltiazem HCl)

balances  
potent  
coronary  
vasodilation  
with a low  
incidence of  
side effects

**Low incidence of side effects**  
CARDIZEM® (diltiazem HCl) produces an incidence of adverse reactions not greater than that reported with placebo therapy, thus contributing to the patient's sense of well-being.

\*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

**References:**

1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

**Reduces angina attack frequency\***  
42% to 46% decrease reported in multicenter study.<sup>1</sup>

**Increases exercise tolerance\***  
In Bruce exercise test,<sup>2</sup> control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ( $P < .005$ ).

**CARDIZEM**  
(diltiazem HCl)

**THE BALANCED  
CALCIUM CHANNEL BLOCKER**

Please see full prescribing information on following page.

2/84

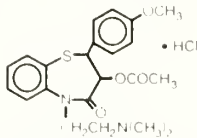


## PROFESSIONAL USE INFORMATION



### DESCRIPTION

**CARDIZEM** (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)-one, 3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride, (+)-cis-. The chemical structure is



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.93. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

### CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

**Mechanisms of Action.** Although precise mechanisms of its antianaginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. **Angina Due to Coronary Artery Spasm.** CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. **Exertional Angina.** CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

**Hemodynamic and Electrophysiologic Effects.** Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect, cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length up to 50% in some cases.

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

**Pharmacokinetics and Metabolism.** Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given, a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

### INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM

is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).

2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance. There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

### CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

### WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

### PRECAUTIONS

**General.** CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes, however, these changes were reversible with continued dosing.

**Drug Interaction.** Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

**Carcinogenesis, Mutagenesis, Impairment of Fertility.** A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in *in vitro* bacterial tests. No intrinsic effect on fertility was observed in rats.

**Pregnancy.** Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women, therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

**Nursing Mothers.** It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

**Pediatric Use.** Safety and effectiveness in children have not been established.

### ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%),

headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence:

Cardiovascular	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope
Nervous System	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia
Gastrointestinal	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH
Dermatologic	Pruritus, petechiae, urticaria, photosensitivity
Other	Polyuria, nocturia

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme, leukopenia, and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

### OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levaterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral LD<sub>50</sub>'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD<sub>50</sub>'s in these species were 60 and 38 mg/kg, respectively. The oral LD<sub>50</sub> in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

### DOSEAGE AND ADMINISTRATION

**Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm.** Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

#### Concomitant Use With Other Antianaginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianaginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

### HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

Issued 4/1/84

Another patient benefit product from



# CME QUIZ

TO OBTAIN ONE HOUR OF CATEGORY 1 AMA CME CREDIT, answer the following questions by circling the correct answer on the answer sheet below. Complete and clip the application form and mail it to: Indiana University School of Medicine, CME Division, Fesler Hall 224, 1120 South Dr., Indianapolis 46223.

## Aortic Surgery

CONTINUED FROM PAGES 225-232

- Indications for reconstructive surgery in aortoiliac occlusive disease include the following:
  - Disabling claudication
  - Distal embolism
  - Ishemic toes
  - A and C only
  - A, B, and C
- Indications for resection of an abdominal aortic aneurysm include the following:
  - Sudden enlargement of a small aneurysm
  - Presence of an aneurysm 6.0 cm in diameter in an otherwise healthy 65-year old male
  - Presence of an aneurysm 6.0 cm in diameter in an otherwise healthy 75-year-old male
  - A and B only
  - A, B, and C
- The most common cause of death in patients over age 70 who have an abdominal aortic aneurysm is:
  - Stroke
  - Myocardial infarction
  - Renal failure
  - Ruptured aneurysm
  - Pneumonia
- The best indicator of a significant hemodynamic occlusive disease in the aortoiliac arterial system is:
  - A resting Doppler arterial exam
  - An exercise Doppler arterial exam
  - Direct femoral artery pressure
  - Direct femoral artery pressure with and without papaverine
  - None of the above
- The most common cause of death following aortoiliac surgery is:
  - Renal failure
  - Myocardial infarction
  - Stroke
  - Respiratory distress syndrome
  - None of the above
- The two most important factors predicting increased morbidity and mortality after aortic surgery are the following:
  - Congestive heart failure and a myocardial infarction within six months prior to surgery
  - Diabetes and hypertension
  - Hypertension and angina
  - Carotid occlusive disease and serum creatinine greater than 1.5 mg percent
  - Obesity and hypertension
- A 65-year old man has a 7 cm asymptomatic aneurysm and a 90% occlusion of the right internal carotid artery and a 50% occlusive irregular plaque in the left internal carotid. He has had no symptoms of cerebrovascular occlusive disease. The proper sequence of operative procedures is as follows:
  - Resection of the aneurysm followed by right carotid endarterectomy about two weeks later
  - Right carotid endarterectomy followed by resection of the aneurysm one to two weeks later
  - Right carotid endarterectomy followed immediately by resection of the aneurysm
  - Resection of the aneurysm and careful observation for development and symptoms of carotid occlusive disease
  - Resection of the aneurysm and institution of antiplatelet therapy

## FEBRUARY CME QUIZ Answers

Following are the answers to the CME quiz that appeared in the February 1986 issue: "Bronchopulmonary Dysplasia," by Anne Z. Marnocha, M.D., et al:

- |          |          |
|----------|----------|
| 1. b     | 6. true  |
| 2. d     | 7. false |
| 3. c     | 8. d     |
| 4. false | 9. a     |
| 5. c     | 10. d    |

CONTINUED ON PAGE 272

### Answer sheet for Quiz: (Aortic Surgery)

- |              |               |
|--------------|---------------|
| 1. a b c d e | 6. a b c d e  |
| 2. a b c d e | 7. a b c d e  |
| 3. a b c d e | 8. a b c d e  |
| 4. a b c d e | 9. a b c d e  |
| 5. a b c d e | 10. a b c d e |

I wish to apply for one hour of category 1 AMA Continuing Medical Education credit through the I.U. School of Medicine. I have read the article and answered the quiz on the answer sheet above. I understand that my answer sheet will be graded confidentially, at no cost to me, and that notification of my successful completion of the quiz (80% of the questions answered correctly) will be directed to me for my application for the Physician's Recognition Award of the American Medical Association. I also understand that if I do not answer 80% of the questions correctly, I will not be advised of my score but the answers will be published in the next issue of INDIANA MEDICINE.

Name (please print or type)

Address

Identification number (found above your name on mailing label)

Signature

To be eligible for this month's quiz, send your completed, signed application before Apr. 10, 1986 to the address appearing at the top of this page.





# AUXILIARY REPORT

**Muriel Osborne (Mrs. John)**  
ISMA Auxiliary President 1985-86

The 42nd Annual Meeting of the ISMA-Auxiliary House of Delegates will be held at the Radisson Plaza Hotel, 8787 Keystone Crossing in Indianapolis, April 22, 23 and 24.

Your hostesses from the Delaware-Blackford County Medical Society Auxiliary promise "to treat you like a star—for that's what you are!"

The "red carpet" welcome mat will be out for ALL auxiliarians and spouses. Every M-A-L and member of a county auxiliary is welcome to attend and participate in all meetings and social functions. We'll prove to you that when business is combined with pleasure—Auxiliary style—you'll have a mid-week, mini-vacation to remember!

Join us for dinner and some very special entertainment on Wednesday evening at the beautiful Meridian Hills Country Club. Traditional Williamsburg architecture and style predominate here to provide a gracious setting for a memorable evening enjoying the background piano styling of Phil



DELAWARE-BLACKFORD COUNTY MEDICAL SOCIETY AUXILIARY  
shares their recipe for  
"ISMA-AUXILIARY STARS"

Take auxiliarians from every county.  
Add a full measure of friendship,  
A heaping dollop of enthusiasm,  
A generous portion of commitment to auxiliary concerns,  
And three days at the RADISSON PLAZA, INDIANAPOLIS, INDIANA.

Season liberally with good food and conversation.  
Mix carefully on APRIL 22-24, 1986.

Allow to interact and share past performances and plan for future activities.

When mixture solidifies, return equal portions to auxiliarians' home counties for processing into auxiliary stars which will shine in areas of AMA/ERF, HEALTH PROJECTS, LEGISLATION and MEMBERSHIP!



Cooley, M.D., Muncie's own piano "star," and the Ball State University Jazz Ensemble, directed by Larry McWilliams. Invite your spouse to join us for this evening gala; when he hears

that the music is merely for listening and not for dancing, we're sure the invitation will be more attractive!—Lois Walker and Mary K. Stanley, 1986 House of Delegates Chairmen

## INDIANA STATE MEDICAL ASSOCIATION AUXILIARY Executive Committee

President	Muriel Osborne (Mrs. John) Muncie	Recording Secretary	Suzanne Miller (Mrs. John D.) Bluffton
President Elect	Alfrieda Mackel (Mrs. Frederick) Huntertown	Treasurer	Mary Jo Gutwein (Mrs. Gilbert) Lafayette
1st Vice President	Anne Throop (Mrs. Frank B.) Indianapolis	Immed. Past President	Judy Koontz (Mrs. James A.) Vincennes
Area Vice Presidents		Finance Secretary	Hulda Classen (Mrs. Peter) Elkhart
Northern	Vivian Priddy (Mrs. Marvin E.) Fort Wayne	Editor ("Pulse")	Martha Stout (Mrs. Francis E.) Muncie
Central	Jackie Kalsbeck (Mrs. John) Zionsville	Parliamentarian	Marianna Irwin (Mrs. Glenn) Indianapolis
Southern	Dorothy Bickers (Mrs. Everett) Floyds Knobs		





If you recognize Tad's father, you'll recognize the name of one of the largest life insurance companies in America.

Lincoln. It's a name you'll remember.

**B**enefits available to members of the Indiana State Medical Association and their employees through expanded ISMA group sponsored Lincoln National Life health insurance coverage:

#### **MEDICAL PLAN 1**

- 365 Days of Inpatient Hospital Care
- 100% payment semi-private or hospital ward room including the cost of blood
- 365 Days In-Hospital Medical Care
- Reasonable and Customary allowances for surgery, maternity, general anesthesia, medical visits, and radiation therapy
- \$500 Supplemental Accident
- Unlimited Major Medical Benefits

#### **MEDICAL PLAN 2**

- Comprehensive Major Medical expense protection—\$500 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 3**

- Comprehensive Major Medical expense protection—\$250 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 4**

- Low cost comprehensive Major Medical expense protection—\$2,000 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 5**

- Low cost plan that provides the same benefits as Medical Plan 3
- This plan includes several cost-containment features

The Lincoln National Life Insurance Company is most pleased to be underwriting the Group Medical and Dental Programs for the Indiana State Medical Association. Your benefit programs have been designed to provide the highest quality coverage and service at the lowest possible cost. A special claim paying unit has been established in our Indianapolis Group Benefits and Service Office to handle only the ISMA program. Should you have questions or problems, you may speak directly to your claim processor at 317-846-6211/800-692-6014. We look forward to serving your association and encourage your review of the programs and services being provided.

**F**or more information call or write:

James D. Townsend or Earl W. Williams  
Professional Account Representatives  
8900 Keystone Crossing, Suite 500  
Indianapolis, Indiana 46240  
(317) 846-7502 or (317) 844-3119  
1-800-428-7105 Toll Free Outside Indiana

Tom Martens  
Director, Health Insurance Administration  
Indiana State Medical Association  
3935 North Meridian Street  
Indianapolis, Indiana 46208  
(317) 926-4424  
1-800-382-1721

#### **NEW DENTAL PLAN**

- Reasonable and Customary allowances for necessary care and treatment for dental health
- \$1,500 Maximum Dental Benefit per person in a Calendar Year

#### **MEDICAL REIMBURSEMENT PLAN**

- Tax Deductible to the professional corporation
- Permissible to cover physicians and key employees only.

# NEWS NOTES

## For the Asking . . .

• "Answers About AIDS" is the subject of a 34-page booklet published by the American Council on Science and Health. Included are 56 references to medical literature. \$2 per copy, with reduced prices for 10 or more copies. Write the Council at 47 Maple St., Summit, N.J. 07901.

• "AIDS Alert" is a monthly newsletter devoted to acquired immunodeficiency syndrome. Annual subscription, \$79. To subscribe, or for more information, write to "AIDS Alert," Dept. 4543, 67 Peachtree Park Drive, Atlanta, Ga. 30309.

• The CPC Valle Vista Hospital of Greenwood (Marion County) has established a treatment program for persons suffering from eating disorders. Named the PRIDE program, it treats adults and adolescents on either an inpatient or outpatient basis. PRIDE is especially suitable for patients with disorders such as anorexia nervosa, bulimia or compulsive overeating. Call the PRIDE coordinator at (317) 887-1348.

• "A Winter Hazard for Older People: Accidental Hypothermia," a brochure prepared by the National Institute on Aging, details risk factors, symptoms, prevention and treatment. Hypothermia is a dangerous disease for the elderly; it is especially dangerous for the older old folks and all elderly people with chronic constitutional diseases. To make it worse, many people don't realize they are too chilly. Hypothermia sneaks up on people like carbon monoxide poisoning—by the time victims realize they are in danger, the damage is done. The brochure is available free of charge. Send a self-addressed postcard to Hypothermia, NIA Information Center, 2209 Distribution Circle, Silver Spring, Md. 20910.

• Breast self-examination instruction and reminder kits are available free of charge from the American Institute for Cancer Research. Universally and carefully applied, this diagnostic procedure is one of the most important and profitable items in the campaign for the cure of breast cancer. Send a business-size, stamped (39¢), self-addressed envelope to the Institute at Dept. BSE, Washington, D.C. 20069.

• "The widest selection of plastic products available anywhere" is being offered by AIN Plastics, Inc. The products, which include rod, sheet and tube stock of all the useful plastics, as well as newcomers, are listed in a free, 128-page catalog. For a copy, write AIN Plastics, Dept. 86 BAC, P.O. Box 151, Mt. Vernon, N.Y. 10550.

• The newly revised and expanded 6th edition main volumes of USP DI are now available from the U.S. Pharmacopeial Convention. The 1986 USP DI softcover, two-volume set includes both prescription and non-prescription medications. Vol. I, Drug Information for the Health Care Provider, is written for the health professional. Vol. II, Advice for the Patient, presents corresponding information in lay language for the consumer. A one-year subscription for the two-volume set is \$60. Vol. I sells for \$41.95, Vol. II for \$23.95. All subscriptions include bimonthly updates. Address orders to USP Order Processing Dept., 12601 Twinbrook Parkway, Rockville, Md. 20852.

• Which is better, seatbelts or airbags? Both, according to topnotch advice from the American Council on Science and Health. The ACSH has published an extensive analysis of the situation in a 34-page booklet, "Automobile Occupant Restraint Systems." Lower fatality rates in states with mandatory seat belt laws prove that seat belts reduce death and injuries; addition of an airbag enhances the safety function of the seat belt and adds safety to a variety of accidents in addition to head-on collisions. For a free copy of the booklet, send a self-addressed, stamped (39¢), business-size envelope to Occupant Restraints Report, ACSH, 47 Maple St., Summit, N.J. 07901.

• "Effective Management of Accounts Payable" gets a thorough going over in the December 1985 issue of "The Medical Practice Letter." Single copies of back issues, \$12. Write to the newsletter's editor at P.O. Box 8087, New Haven, Conn. 06530.

## CME Quiz . . .

CONTINUED FROM PAGE 269

8. A patient with the same angiographic findings as described in Question #7 develops back pain when hospitalized and is noted to have tenderness on palpation of the aneurysm. The proper sequence of operations is as follows:
  - a. Resection of the aneurysm followed by right carotid endarterectomy after recovery from the aortic operation
  - b. Right carotid endarterectomy followed by resection of the aneurysm one to two weeks later
  - c. Right carotid endarterectomy followed immediately by resection of the aneurysm
  - d. Resection of the aneurysm and careful observation for development of symptoms of carotid occlusive disease
  - e. Resection of the aneurysm and institution of antiplatelet therapy
9. The factor most important in reducing operative morbidity and mortality is:
  - a. Adequate maintenance of intravascular volume in the intra- and perioperative periods
  - b. Use of adequate heparinization
  - c. Development of newer forms of graft materials, such as expanded Teflon
  - d. Intraoperative monitoring of arterial oxygen
  - e. Use of cardioactive pharmacologic agents in the immediate pre- and post-aortic clamping phases of the operation
10. Ischemic bowel can occur after aortic surgery and is best controlled by:
  - a. Prevention
  - b. Bowel resection
  - c. Prevention of hypotension
  - d. A and B
  - e. A, B, and C



## State's Small Business Problems to be Aired at White House Conference

Physicians are eligible to participate as delegates to the national White House Conference on Small Business, which will meet in Washington, D.C., Aug. 17 to 21.

In preparation for the national conference, one-day state conferences have been or will be held to elect delegates, to identify small business problems, and to develop recommendations for government action.

The Indiana conference will meet Tuesday, April 1, at the Hyatt Regency, Indianapolis.

The number of delegates to be elected is twice the state's Electoral College vote, with a minimum of 10 delegates in smaller states. Each delegate must be a resident of the state electing him or her, must be an owner, partner or corporate officer of a small

business that employs fewer than 500 people, and must be willing to pay expenses to the national conference.

For more information, contact the White House Conference on Small Business, 1801 K St., N.W., Suite 1101, Washington, D.C. 20006 - (202) 653-9550.

## Warning: Don't Keep Ferrets in the House as Pets; They Bite

The American Veterinary Medical Association warns that, since 1981, five children, one of them in Indiana, have been bitten and suffered extensive injuries during attacks by "pet" ferrets.

The bites have been extensive and are centered on the face, especially around the eyes, nose and mouth. Besides the injuries, ferrets may have rabies, although usually not. Nevertheless, if bite injuries occur, the animal should be tested for rabies.

## In This Issue: 'Physician's Guide to Indiana Law'

The 24-page yellow insert in this issue of INDIANA MEDICINE, entitled "Physician's Guide to Indiana Law," deals with many of the laws that affect a physician's practice.

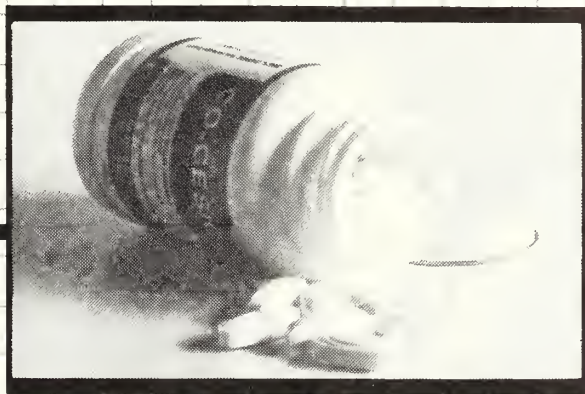
The statutes and rules cited are those in effect as of Oct. 1, 1985.

The "Physician's Guide" was prepared primarily by Gregory Bowes, J.D., the newest addition to ISMA's in-house legal staff. Mr. Bowes is a 1985 graduate of the Indiana University School of Law.

Additional copies of the "Physician's Guide to Indiana Law" are available at a cost of \$4 each, including postage and handling. Write Indiana State Medical Association, Attn: Greg Bowes, 3935 N. Meridian St., Indianapolis, Ind. 46208. Checks should be made payable to the Indiana State Medical Association.

# Co-Gesic<sup>®</sup>

(500 mg. Acetaminophen - 5 mg. Hydrocodone Bitartrate)



Proven  
Dependability



## CENTRAL PHARMACEUTICALS, INC.

SEYMOUR, INDIANA 47274 USA

*Quality Pharmaceuticals Since 1904*



# NEWS NOTES

## New ISMA Members

The following physicians were welcomed in January as new members of the Indiana State Medical Association:

Louis J. Angelicchio, M.D., Indianapolis, orthopedic surgery.

Brenda J. Barnhart, M.D., Indianapolis, neonatal-perinatal medicine.

Robert M. Bathurst, M.D., Morocco, general practice.

Philip A. Batista, M.D., Brownsburg, family practice.

Janice L. Bilby, M.D., Flora, family practice.

Sabahattin Bilgutay, M.D., Richmond, psychiatry.

Richard T. Buck, M.D., Indianapolis, radiology.

Yong Cho, M.D., Princeton, general surgery.

Marilyn Datzman, M.D., Bedford, nephrology.

Candice L. Embry, M.D., Corydon, family practice.

William A. Engle, M.D., Indianapolis, neonatal-perinatal medicine.

George F. Estill, M.D., Corydon, family practice.



Diane C. Germick, M.D., Indianapolis, anesthesiology.

Jose S. Geronimo, M.D., Santa Claus, general practice.

James Hargreaves, D.O., Richmond, internal medicine.

Albert Kaltenthaler, M.D., Akron, pathology.

J. Michael Kelbel, M.D., South Bend, orthopedic surgery.

Douglas S. Kuehn, M.D., South Bend, diagnostic radiology.

James R. Mackenzie, M.D., Indianapolis, clinical pathology.

Francis M. Magyar, M.D., Bristol, internal medicine.

John E. Marshall, M.D., Roanoke, family practice.

Arnold R. Miller, M.D., Bedford, orthopedic surgery.

Joseph F. Montebello, M.D., Indianapolis, therapeutic radiology.

James G. Morphis II, M.D., Indianapolis, therapeutic radiology.

Kirk L. Parr, M.D., Indianapolis, cardiovascular diseases.

R. Daniel Pollom, M.D., Indianapolis, internal medicine.

A. Rajeshwar Rao, M.D., Kokomo, therapeutic radiology.

Shailaja Reddy, M.D., Indianapolis, therapeutic radiology.

Lawrence X. Staubach, M.D., Bedford, diagnostic radiology.

Hugo R. Steinitz, M.D., Valparaiso, ophthalmology.

Krikor B. Tatoyan, M.D., Portland, general surgery.

Michelle L. Thames, M.D., Columbus, anesthesiology.

Guy B. Waldo, M.D., Bedford, internal medicine.

Edward R. Wills, M.D., Indianapolis, clinical pathology.

## Residents

Don E. Campbell, M.D., Indianapolis, internal medicine.

Robert E. Clark, M.D., Indianapolis, dermatology.

John Gibbons, D.O., Fort Wayne, family practice.

Daniel E. Lucas, M.D., Indianapolis, radiology.

Mary D. Nettleman, M.D., Indianapolis, internal medicine.

James L. Nevin-Gattle, M.D., Indianapolis, emergency medicine.

Daniel A. Polansky, M.D., Indianapolis, internal medicine.

Russell D. Wong, M.D., Indianapolis, pediatrics.

## The Upjohn Company Marks 100th Anniversary

The Upjohn Company of Kalamazoo, Michigan is celebrating its 100th anniversary. William E. Upjohn, M.D., formed the company in 1886 to manufacture the friable pill. Dr. Upjohn was a practicing physician in Michigan at the time he formed the company along with his three brothers, two of whom were physicians.

Today the enterprise is one of the 15 largest research-oriented pharmaceutical companies in the world.

The friable pill was a great invention and improvement, since many of the pills of that day were so firm that they did not dissolve in the GI tract and the medicine was not absorbed. Since that time, Upjohn research has come up with Digitora, one of the first pharmaceuticals with a documented shelf life, and Citrocarbonate, the alkalyzer that soon sold at the rate of at least \$1 million annually. Later, Upjohn introduced Kaopectate, Depo-Provera, Cortaid, Motrin and many others—all of them produced by research.

## Pharmaceutical Research Draws New Attention

An organization has been formed to aid the progress of pharmaceutical research—more research, better research and more money to support research.

The new organization is called CUREP (Concern for Understanding of Research in Ethical Pharmaceuticals). It is sponsored by the Philadelphia College of Pharmacy and Science.

The organizers point out that this is the time when more cancer research is needed; research activities also are in great need of support for investigating Alzheimer's disease and AIDS.

Research-oriented pharmaceutical manufacturers get their research money for new drugs from their profits on brand-name drugs. Since the widespread and growing use of generic drugs, made by non-research firms, deprives the research people of research money, CUREP naturally favors the use of drugs that are made by the discoverers—the research-oriented companies.

## Here and There . . .

Dr. Michael T. Isenberg of Fort Wayne has been named clinical consultant for Wabash County Hospital's new Gastroenterology Clinic.

Dr. Robert E. Chattin, a Loogootee family physician 38 years, has retired from practice.

Dr. Edward L. Langston of Flora has been named chairman of the Committee on Drugs and Devices, American Academy of Family Physicians; he also has been appointed to the Family Practice Advisory Board to the U.S. Pharmacopeia.

Dr. Henry C. Bock Jr. of Indianapolis has been named a diplomate of the American Board of Emergency Medicine.

Dr. James L. Pease of Franklin has been appointed medical director of the Todd-Aikens Health Center, being opened by Johnson County Hospital for long-term convalescent care.

Dr. Larry E. Brooks of North Vernon has been elected to fellowship in the American College of Surgeons.

Dr. Jere Guin, formerly of Kokomo, who is now professor and chairman of the Dept. of Dermatology, University of Arkansas for Medical Sciences, has been awarded a \$1.1 million grant by the National Cancer Institute to conduct a five-year study on the prevention of basal cell carcinoma.

Dr. Hans R. Wilbrandt, an Indianapolis ophthalmologist, is a new fellow of the American College of Surgeons.

Dr. Harold F. Zwick of Decatur has written a medical history of Adams County for the Adams County-Decatur Sesquicentennial historical booklet, which becomes available this month.

Dr. Swaroop Rai of Huntingburg recently addressed former cardiac rehabilitation patients of St. Joseph's Hospital, discussing calcium channel blockers.

Dr. L. Michael Silvers of North Manchester discussed osteoporosis during a recent meeting of the community's Health Enrichment Program for older adults.

Dr. Taft W. Roe of Evansville is the new president of the medical and dental staff at St. Mary's Medical Center; Dr. R. Kenneth Spear is vice-president, and Dr. Patrick C. Flaminio is secretary-treasurer.

Dr. James E. Duncan of LaFontaine is the new chief of the medical staff at Wabash County Hospital.

Dr. John G. Kolettis of Merrillville is the new president of the medical staff at St. Mary Medical Center; Dr. Vijay B. Dave is president-elect, Dr. Peter G. Mavrelis is secretary, and Dr. Shreyas Desai is treasurer.

Dr. William R. Powers of Lyons is the new president of the medical staff at Greene County General Hospital; Dr. Owen Batterton is the new vice-president.

Dr. Warren R. Rucker of Madison is the new president of the medical staff at King's Daughters' Hospital; Dr. John Hossler is vice-president, and Dr. Paul W. Cronen Jr. is secretary-treasurer.

Dr. Fred Adler of Munster is the new president of the medical staff at St. Catherine Hospital; Dr. Lyle R. Munn is secretary-treasurer.

Dr. John B. Kay of Huntington has been re-elected chief of the medical staff at Huntington Memorial Hospital; Dr. Duane A. Hougendobler is vice chief of staff, and Dr. Richard W. Wagner is secretary.

Dr. Martin T. Feeney of Greenwood is the new president of the medical staff at St. Francis Hospital, Beech Grove; Dr. James D. Rogge is vice-president, and Dr. Donald J. Kerner is secretary-treasurer.

Dr. James L. Peters of Shelbyville is the new chief of the medical staff at W. S. Major Hospital; Dr. Joseph Moheban is vice chief of staff, and Dr. Wilson L. Dalton is secretary.

Dr. John L. Swarner Jr. of Valparaiso discussed diabetes at a January meeting of the Porter County Chapter, American Diabetes Assn.



## Physician Recognition Awards

The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned, and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.



Allen, Donald R., Evansville  
Alley, Thomas W., Indianapolis  
Arshad, Mohammad, Merrillville  
Balasandiran, Emil A., Marion  
Banguis, Eliseo T., Shelbyville  
Carney, Peter M., Elkhart

Conway, Thomas J., Terre Haute  
DePalma, Bruno, Lawrenceburg  
Ellis, Randy S., Crown Point  
Galup, Luis N., South Bend  
Kaufman, Julian R., Fort Wayne  
Kerlin, Joseph C., Danville

Koss, Kenneth W., Muncie  
Prasertwanitch, Yupadi, Granger  
Singco, Bienvenido O., Greenfield  
Smith, Steven R., Carmel  
Workman, Barbara E., Muncie  
You, Kwang-Duck, Munster



# TIPTON COHEN & KOCH

Attorneys at Law  
Morrison Opera Place  
Suite 200  
47 South Meridian Street  
INDIANAPOLIS, INDIANA 46204  
(317) 634-6550

## Consents and Guidelines:

Operative Consents  
Ambulatory Surgery and  
Anesthesia Guidelines  
Policies and Procedures  
for Patient Care

## Medical Malpractice Defense:

Litigation  
Risk Management




## Patient Account Collection:

Self Pay  
Private Insurance  
Medicaid  
Medicare  
Hospital Care for Indigent  
Crippled Children's

JOE TIPTON, J.D. STEVEN J. COHEN, J.D. EDNA M. KOCH, R.N., J.D.



**AIR  
FORCE**   
A great way of life.

## HEALTH CARE AT ITS BEST: AIR FORCE MEDICINE

Air Force medicine is one of our best benefits, and, with your help, we'll keep it that way. The Air Force needs physicians such as you to become members of our health care team.

Most administrative responsibilities are in the hands of others, giving our physicians the time to give their full attention to the patients' needs. Our hospitals are staffed with dedicated, competent professionals.

You'll find you will have time for your family, and to keep abreast of the latest methods and technologies that you don't have time for now. We also offer unlimited professional development and financial security.

If you're considering a change, consider Air Force medicine. To find out more about Air Force medicine, contact your nearest Air Force recruiter. Experience health care at its best.

**Capt. Scott Simpson**

**SSgt. Ernie Williams**

**SSgt. Bill Turner**

**317-269-6164 or 6354 collect**



# 1985 MEMBERSHIP REPORT

December 31, 1985

COUNTY	PAID	EXEMPT	ISMA TOTAL	AMA TOTAL
Adams	12	3	15	6
Bartholomew-				
Brown	74	15	89	51
Benton	3	1	4	0
Boone	19	6	25	9
Carroll	8	2	10	8
Cass	33	8	41	15
Clark	84	4	88	39
Clay	11	2	13	6
Clinton	12	3	15	10
Daviess-				
Martin	17	5	22	7
Dearborn-				
Ohio	25	2	27	11
Decatur	10	3	13	7
Dekalb	14	6	20	10
Delaware-				
Blackford	137	20	157	82
Dubois	37	5	42	23
Elkhart	123	23	146	78
Fayette-				
Franklin	23	1	24	13
Floyd	68	7	75	40
Fort Wayne-				
Allen	381	70	451	301
Fountain-				
Warren	9	3	12	6
Fulton	8	1	9	4
Gibson	5	5	10	4
Grant	81	14	95	46
Green	11	6	17	6
Hamilton	34	1	35	19
Hancock	26	3	29	17
Harrison-				
Crawford	8	1	9	5
Hendricks	36	2	38	22
Henry	31	6	37	15
Howard	80	15	95	55
Huntington	16	5	21	6
Indianapolis-				
Marion	1389	226	1615	865
Jackson	19	5	24	10
Jennings	2	1	3	0
Jasper	9	2	11	7
Jay	15	2	17	9
Jefferson-				
Switzerland	29	5	34	12
Johnson	40	3	43	19
Knox	56	8	64	39
Kosciusko	27	1	28	18
Lagrange	10	1	11	6

COUNTY	PAID	EXEMPT	ISMA TOTAL	AMA TOTAL
Lake	551	75	626	352
Laporte	96	12	108	59
Lawrence	41	2	43	13
Madison	119	23	142	52
Marshall	20	1	21	14
Miami	18	3	21	10
Montgomery	25	3	28	14
Morgan	16	4	20	8
Newton	3	2	5	0
Noble	14	1	15	11
Orange	4	1	5	2
Owen-Monroe	128	18	146	52
Park-				
Vermillion	8	5	13	6
Perry	5	1	6	3
Pike	1	0	1	1
Porter	102	7	109	77
Posey	1	3	4	1
Pulaski	5	1	6	3
Putnam	14	2	16	8
Randolph	12	6	18	4
Ripley	8	1	9	4
Rush	10	5	15	4
St. Joseph	248	62	310	200
Scott	7	1	8	2
Shelby	20	3	23	14
Spencer	1	1	2	1
Starke	6	2	8	3
Steuben	12	5	17	8
Sullivan	8	5	13	7
Tippecanoe	175	29	204	80
Tipton	11	3	14	7
Vanderburgh	343	51	394	200
Vigo	124	24	148	64
Wabash	25	2	27	13
Warrick	11	1	12	1
Washington	8	1	9	3
Wayne-Union	76	13	89	58
Wells	45	13	58	43
White	6	3	9	4
Whitley	10	3	13	7
Resident				
Medical				
Society	201	0	201	63
TOTALS:	5570	900	6470	4211
FOR INFORMATION:				
1984 Totals	5267	835	6102	4312
1983 Totals	5130	789	5919	4291
1982 Totals	5066	752	5817	4404
1981 Totals	4942	719	5661	4482
1980 Totals	4786	707	5493	4379

# PROFESSIONAL LIABILITY INSURANCE CO



In ten years your malpractice carrier may be just a memory.

Unless it's Medical Protective.

As you consider professional liability insurance, consider this. The coverages stated in the policy are basically a promise — a promise to be here when needed regardless of legal climate or economic conditions. A company's ability to keep this promise is critical because your financial security may depend on it. Unfortunately, too many firms are now finding the task impossible.

Analyze your liability insurance options carefully just as you would any important investment. Go beyond the agent and the policy to the company that

stands behind both. How long has it been in operation? Has it weathered some of the tough times? Will it be there for you when you need help?

The Medical Protective Company pioneered professional liability coverage before the turn of the century and has served doctors exclusively ever since. Over 500,000 of them. Through good times and bad. We'll be here when you need us.

Contact The Medical Protective Company through one of our general agents. History shows we keep our promises.

1913

**MEDICAL PROTECTIVE COMPANY**

**FORT WAYNE, INDIANA**

Vernon E. Hoover, John J. Lindenschmidt, H. Jere Frey  
Suite 237, 6100 North Keystone Avenue, P.O. Box 20576  
Indianapolis, IN 46220, (317) 255-6525

Robert B. Newell  
Suite 265, 2260 Lake Avenue  
Fort Wayne, IN 46805, (219) 422-4783

# ***PHYSICIANS' DIRECTORY***

## **CARDIOLOGY**

### **DIAGNOSTIC AND INTERVENTIONAL**

**WILLIAM K. NASSER, M.D.**

**MICHAEL L. SMITH, M.D.**

**DENNIS K. DICKOS, M.D.**

**CASS A. PINKERTON, M.D.**

**JOHN D. SLACK, M.D.**

**JAMES W. VAN TASSEL, M.D.**

**CHARLES M. ORR, M.D.**

**JANE HOWARD, M.D.**

CARDIOLOGY AND CARDIAC CATHETERIZATION  
ECHOCARDIOGRAPHY  
EXERCISE STRESS TESTING  
CORONARY ANGIOPLASTY  
NUCLEAR CARDIOLOGY  
PACEMAKER SURVEILLANCE  
HOLTER MONITORING

#### **ST. VINCENT PROFESSIONAL BUILDING**

SUITE 400

8402 HARCOURT ROAD

INDIANAPOLIS, INDIANA 46260

PHYSICIAN  
REFERRAL ONLY

TELEPHONE (317) 875-9316  
(TOLL-FREE) 800-732-1482  
(TOLL-FREE) 800-CHD-PTCA  
DAY OR NIGHT



# PHYSICIANS' DIRECTORY

## COLON AND RECTAL SURGERY

W. M. KENDRICK, M.D.  
G. A. DONNALLY, M.D.  
R. JAMES WILSON, M.D.  
W. E. KELLEY, M.D.  
RICHARD L. STOUT, M.D.

Certified: International Board of Proctology

Practice limited to Colonoscopy,  
Treatment and Surgery of Rectal Diseases

**Kendrick Memorial Hospital, Inc.**  
**Mooreville, Indiana**  
**Tel: 317-831-9300**

(JCAH Accredited)

## PLASTIC SURGERY

AMBULATORY SURGERY FACILITY  
1944 N. Capitol Ave. Indianapolis 46202

"An office surgery facility"

**HAROON M. QAZI, M.D., F.A.C.S.**

**Diplomate, American Board of Plastic Surgery**

Phone: 317-923-4822

317-926-3466

A space this size in the Physicians' Directory costs only \$120. Even a notice this size will serve to provide referrals for the next 12 months.

## ALCOHOLISM TREATMENT



### Individualized Treatment for Alcoholism/Drugs

Men — Women — Adolescents

Michael Chadwick, M.D.  
David Gregory, M.D.  
Koala Center  
2223 Poshard Drive  
Columbus, Indiana  
(812) 376-1711

John Krueger, M.D.  
Koala Center of  
St. Joseph's Hospital  
700 Broadway  
Fort Wayne, Indiana  
(219) 425-3825

John Saalwaechter, M.D.  
Koala Center  
1711 Lafayette Avenue  
Lebanon, Indiana  
(317) 482-3711  
and  
Koala Adolescent  
1404 S. State Avenue  
Indianapolis, Indiana  
(317) 783-4084

Daniel Kubley, M.D.  
Koala Center  
1800 N. Oak Road  
Plymouth, Indiana

**Indiana Toll-Free  
24-Hour HELPLINE  
1-800-622-4711**

### OUTREACH OFFICES

Bloomington  
Clarksville  
Hammond  
Indianapolis  
Marion  
Richmond  
South Bend  
Muncie  
Crawfordsville

# PHYSICIANS' DIRECTORY

## CARDIOLOGY

### INDIANAPOLIS CARDIOLOGY ASSOCIATES, INC.

Robert E. Edmands, M.D.

Samuel M. Hazlett III, M.D.

Abdel A. Zeni, M.D.

Don B. Ziperman, M.D., F.A.C.C.

CARDIOLOGY AND CARDIAC CATHETERIZATION  
ECHOCARDIOGRAPHY  
EXERCISE STRESS TESTING  
CORONARY ANGIOPLASTY  
PACEMAKER SURVEILLANCE  
HOLTER MONITORING

1315 North Arlington Avenue  
Suite #100  
Indianapolis, Indiana 46219  
(317) 359-3501

*PHYSICIAN REFERRAL ONLY*

1500 Albany Street  
Suite #912  
Beech Grove, Indiana 46107  
(317) 786-9211

## PERIPHERAL VASCULAR SURGERY

## ALCOHOLISM TREATMENT



VASCULAR SURGERY, INC.

AUSTIN L. GARDNER, M.D., F.A.C.S.  
MALCOLM B. HERRING, M.D., F.A.C.S.  
DANIEL R. LeGRAND, M.D., F.A.C.S.  
DAVID L. MADISON, M.D.

8402 HARCOURT ROAD, SUITE 613  
INDIANAPOLIS, INDIANA 46260  
OFFICE HOURS BY APPOINTMENT  
TELEPHONE (317) 872-4129  
OR  
800-662-5367  
8 a.m.-5 p.m. only  
Monday-Friday

## Douglas Bullington, M.D.

Program Director



### COUNTERPOINT CENTER

at Valle Vista Hospital  
898 E. Main Street  
Greenwood, IN 46142  
317/887-1348

- Free evaluation and intervention
- Adult & Adolescent Treatment Services
- 24 hours-a-day

# PHYSICIANS' DIRECTORY

## INTERNAL MEDICINE

### NEPHROLOGY & INTERNAL MEDICINE, INC.

Thomas Wm. Alley, M.D., FACP      Theodore F. Hegeman, M.D.  
George W. Applegate, M.D.      Douglas F. Johnstone, M.D.  
Charles B. Carter, M.D.      Wendy L. Kindig, M.D.  
William H. Dick, M.D., FACP      LeRoy H. King, Jr., M.D., FACP  
Mary A. Margolis, M.D.

1801 N. Senate Blvd, Suite 355, Indianapolis 46202  
Tel: 317-924-8425

By Physician Referral

Answering Service 926-3466

CLINICAL NEPHROLOGY, RENAL TRANSPLANTATION, HEMODIALYSIS, PERITONEAL DIALYSIS, HYPERTENSION, FLUID AND ELECTROLYTE IMBALANCE, CRITICAL CARE.

**MERIDIAN MEDICAL GROUP, INC.**  
**MAIN OFFICE—1801 N. Senate Blvd.**  
**929-5800**

**NORTH OFFICE—3077 E. 98th St.**  
**(98th & Keystone) 843-8704**

#### CARDIOLOGY

Richard M. Nay, M.D. 929-8505  
Warren E. Coggeshall, M.D. 846-5666  
Richard R. Schumacher, M.D. 929-5818  
Martin R. See, M.D. 929-5817

#### GASTROENTEROLOGY

Robert D. Pickett, M.D. 846-4696  
Lee G. Jordan, M.D. 929-5826  
Martin P. Meisenheimer, M.D. 929-5816  
John C. Kohne, M.D. 929-5822

#### HEMATOLOGY/ ONCOLOGY

James E. Schroeder, M.D. 929-5812  
Frank A. Workman, M.D. 929-5813

#### INFECTIOUS DISEASES

Michael L. Zeckel, M.D. 929-5814

#### METABOLISM & ENDOCRINOLOGY

William M. Holland, M.D. 843-8700

#### INTERNAL MEDICINE

Hunter A. Soper, M.D. 929-5810  
Douglas H. White, Jr., M.D. 843-8736  
B. T. Maxam, M.D. 843-8703  
Michael B. DuBois, M.D. (GERIATRICS)  
929-5806

Patricia K. Hendershot, M.D. 929-5815  
Douglas J. Moeller, M.D. 929-5808  
Timothy J. Story, M.D. 929-5811  
John F. Schaefer, Jr., M.D. 929-5807

#### NEUROLOGY

#### EEG AND EMG LAB

Norman W. Oestrike, M.D. 929-5828  
Charles E. Rehn, M.D. 929-5827  
John R. Scott, M.D. 929-5819  
Bradford R. Hale, M.D. (PEDIATRICS)  
929-5823

Robert J. Alonso, M.D. 929-5824

Michael W. French, M.D. 929-5830

#### PULMONARY DISEASES

Michael R. Niemeier, M.D. 929-5820

## CLINICAL, ANATOMIC PATHOLOGY



### The Medical Laboratory

of Drs. Thornton - Haymond - Costin - Buehl  
Bolinger - Warner - McGovern - McClure - Hooker

5940 West Raymond Street, Indianapolis, Indiana 46241

Phone: (317) 248-2448

### COMPLETE LABORATORY SERVICES

Serving Indiana Since 1947

- MICROBIOLOGY
- SEROLOGY
- CHEMISTRY
- SURGICAL PATHOLOGY
- HEMATOLOGY
- COAGULATION
- FORENSIC
- CYTOLOGY
- EKG
- VETERINARY PATHOLOGY
- TOXICOLOGY
- COURIER SERVICES



### CLINICAL AND ANATOMIC PATHOLOGY

Central Testing Facility:

5940 W. Raymond St.

For information and details phone

248-2448

## RHINOLOGY

By appointment only

317-359-9636

### CARL B. SPUTH, M.D.

*Diseases & Surgery of Nose & Sinuses*

*Plastic Surgery of the Nose*

*Nasal Allergy, Rhinomanometry*

5506 E. 16th St.

Indianapolis 46218



# PHYSICIANS' DIRECTORY

## OTOLOGY

### MERIDIAN OTOLOGY LAB

- \*Complete Audiometric Evaluations
- \*Hearing Aid Evaluations and Dispensing
- \*Brainstem Auditory Evoked Response
- \*Visual Evoked Response
- \*Electronystagmography

Richard Kurtz, M.D.      Jack Summerlin, M.D.  
Kathleen Corbin, M.A., CCC-A  
Audiologist

3266 N. Meridian Street      Indianapolis, Indiana  
Suite B12      (317) 925-7077

## PSYCHIATRY

### Davis Psychiatric Clinic, Inc.

1431 North Delaware Street  
Indianapolis, Indiana 46202  
317/634-9930

James R. Davis, M.D.      R. Peter Mohlman, M.D.  
Larry M. Davis, M.D.      George McAfee, M.D.  
Timothy B. Hudson, M.D.      Judith L. Campbell, M.D.  
Balwant S. Mallik, M.D.

Comprehensive Child, Adolescent, Adult Psychiatry  
Sexual Therapy, Crisis Intervention  
Alcohol and Substance Abuse

## DERMATOPATHOLOGY

### DERMATOPATHOLOGY LABORATORY

Larry J. Buckel, M.D.  
Robert M. Hurwitz, M.D.

Howard R. Gray, M.D.  
William B. Moores, M.D.



Diplomates of the American Boards  
of  
Dermatology and Dermatopathology

*Specializing in*  
Inflammatory Skin Diseases  
and  
Neoplasms of the Skin

9202 North Meridian Street  
Suite 215

Approved for and Accept  
Medicare and Medicaid  
Assignment

Indianapolis, Ind. 46260  
(317) 843-2204

UPS Mailers and Courier Service Available

# *PHYSICIANS' DIRECTORY*

## ONCOLOGY—HEMATOLOGY

### INDIANA ONCOLOGY-HEMATOLOGY CONSULTANTS



#### ADULT ONCOLOGY HEMATOLOGY

Laurence H. Bates, M.D.  
William H. Bond, M.D.  
William M. Dugan, M.D.  
Redmond P. Hogan, M.D.  
Gregory W. Smith, M.D.

#### PEDIATRIC ONCOLOGY HEMATOLOGY

Deborah S. Provisor, M.D.

#### HOSPICE CARE-INTERNAL MEDICINE

Neil E. Irick, M.D.

1828 N. ILLINOIS  
INDIANAPOLIS  
INDIANA 46202

PHONE: 317/927-5770  
TOLL FREE: 1-800-ONC-HEME  
1-800-662-4363

*Located in the Byram Gates Middleton House  
Listed on the National Register of Historic Places*

# PHYSICIANS' DIRECTORY

## CLINICAL, ANATOMIC PATHOLOGY

### **GPL** CENTRAL INDIANA PATHOLOGY LABORATORIES, INC.

Edwin E. Pontius, M.D., F.C.A.P.     Mary L. Forster, M.D., F.C.A.P.  
*Director*                                      *Co-Director*

Elizabeth C. Bond, M.T.(ASCP), S.M.  
*Administrator*

- PROMPT WALK-IN SERVICE
- 24 HOUR TURNAROUND FOR MOST TESTS
- COURIER SERVICE FOR PHYSICIAN OFFICES
- ASSIGNMENT ACCEPTED ON MEDICARE AND MEDICAID
- BLUE SHIELD PREFERRED PROVIDER

**MAIN LABORATORY**  
Northwest Medical Building  
3500 Lafayette Rd  
291 9364

**BRANCH LOCATIONS**  
Westlake Medical Building  
805 Beachway Dr 244 7754  
Zionsville  
50 Boone Woods 873 4286

**• A FULL SERVICE OUTPATIENT CLINICAL LABORATORY •**

## ORTHOPEDIC FOOT SURGERY

### **ROBERT M. PALMER, M.D.** **A.A.O.S. F.A.C.S.**

Diplomate of the American Board  
of Orthopaedic Surgery

Member of the American Orthopaedic  
Foot and Ankle Society

### **ORTHOPAEDIC RECONSTRUCTIVE SURGERY OF THE FOOT AND ANKLE**

2020 W 86th Street, Suite 304  
Indianapolis, Indiana 46260  
(317) 872-3364

## HAND SURGERY

### **VIDYASAGAR S. TUMULURI, M.D., F.A.C.S., INC.**

DIPLOMATE AMERICAN BOARD OF SURGERY

*Acute & Reconstructive Hand Surgery*

By Appointment                      South Sherman Professional Complex  
Telephone (317) 783-1319              3417 S Sherman Dr Suite F  
If No Answer Call (317) 926 3466      Beech Grove Indiana 46107

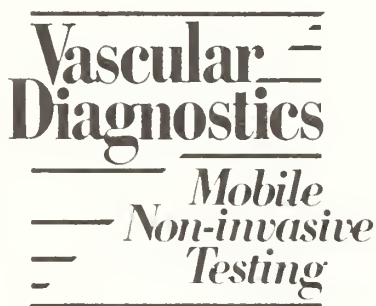
A space this size in the Physicians' Directory costs only \$120. Even a notice this size will serve to provide referrals for the next 12 months.



# *PHYSICIANS' DIRECTORY*

## **VASCULAR DIAGNOSTICS**

**Mobile vascular laboratory service**



State of the art non-invasive vascular testing

Performed on site at various hospitals throughout central Indiana. Current sites include Danville, Lebanon, Logansport, Monticello and Rushville.

### **EXAMS AVAILABLE INCLUDE:**

1. Cerebrovascular assessment
  - a. Direct visualization (Real-time B-mode ultrasound).
  - b. Indirect tests (Periorbital Doppler exam, spectral analysis).
2. Extremity exams
  - a. Arterial Doppler exam (upper and lower extremities).
  - b. Venous Doppler exam (upper and lower extremities).
  - c. Thoracic outlet Doppler screen.
  - d. Digital mapping (e.g. for evaluation of vasospastic disorders).
  - e. Penile Doppler (evaluation for vasculogenic impotence).
  - f. Post-occlusive lower extremity Doppler exam.

For information regarding examination sites and patient scheduling call (317)-872-4129, outside of Indianapolis call 1-800-662-5367. (Offices of Drs. Gardner, Herring, LeGrand, and Madison). Additional exam sites available.

# PHYSICIANS' DIRECTORY

## OPHTHALMOLOGY



### Indiana Eye Associates COMPLETE MEDICAL, DIAGNOSTIC & SURGICAL OPHTHALMIC SERVICES

- Eye Examinations
- Consultations
- Surgery: Cataract, Implant, Glaucoma, Laser, Pediatric, Plastic, Retinal, Corneal and Refractive
- Contact Lenses: Hard, Soft, Gas Permeable & Extended Wear
- Visual Fields
- Ocular & Endothelial Photography
- Ultrasonography

#### Physicians:

David L. Alvis, M.D.	Jack L. Kane, M.D.
Peter H. Cahn, M.D.	John E. Mitchelson, M.D.
George A. Clark, M.D.	Francis W. Price Jr., M.D.
Parvin D. Gillim, M.D.	George E. Waters Jr., M.D.

Indiana Eye Associates P.C.  
9100 Meridian Square  
50 East 91st Street (at North Meridian)  
Indianapolis, IN 46240  
Phone: (317) 848-1348

## ABDOMINAL SURGERY

### TED W. GRISELL, M.D.

*Providing consultative services  
for physicians throughout Indiana  
for patients with  
complex management problems*

5317 East 16th Street  
Indianapolis 46218

317-359-8261

Phone answered 24 hours

## NEUROLOGY

### SHIRLEY M. MUELLER, M.D. NEUROLOGY

Pain, Headache &  
Diseases of the  
Autonomic Nervous System  
(including testing)

**317-871-6000**

**NORTH:** St. Vincent's Professional Bldg #726

**SOUTH:** Greenwood Heights Professional Bldg #6

### Attention Indiana Physicians

The *Physicians' Directory* is the most ethical and professional method of announcing specialty practice. It is also the most effective medium for listing office location, office hours, and telephone number for the convenience of colleagues in referring patients.

The title of diplomate of a specialty examining board, a requirement for admission to the *Directory*, offers its assurance of qualifications, whether listed or not.

Family physicians may announce office schedules that are reciprocally staggered in order to provide access to evening and weekend and holiday medical service.

In addition to providing benefits to physicians, the *Directory* is a practical means of providing financial support for INDIANA MEDICINE.

All diplomates of the ISMA are invited to enter a professional card in the *Directory*.



## **THE INDIANA MEDICAL FOUNDATION, INC.**

**3935 North Meridian Street**

**Indianapolis 46208**

A foundation for charitable, educational, and scientific purposes, organized by the ISMA as an endowment fund to support the educational mission of the Association and INDIANA MEDICINE.

Bequests, legacies, devises, transfers or gifts to the Foundation or for its use are deductible for federal estate and gift tax purposes, in accordance with the Internal Revenue Code.

The Foundation is managed by a board of directors that comprises the members of the ISMA Executive Committee. At present, proceeds from the Foundation investments are awarded to INDIANA MEDICINE to further the continuing medical education program.

Memorial contributions made to the Foundation in lieu of flowers will be acknowledged by the secretary in a letter to the family of the deceased.

*"for religious, charitable, scientific,  
literary or educational purposes"*



# OBITUARIES

## Oscar Green, M.D.

Dr. Green, 61, a physician for the Roudebush VA Hospital in Indianapolis since 1971, died Jan. 17 at his home in Carmel.

He was a 1947 graduate of Indiana University School of Medicine and was an Army veteran of the Korean War.

Dr. Green was certified by the American Board of Otolaryngology and was a member of the American Academy of Otolaryngology-Head and Neck Surgery.

## Stephen D. Malouf, M.D.

Dr. Malouf, 95, a former Peru surgeon, died Jan. 16 at Lakeland Regional Medical Center.

He was a 1916 graduate of the Chicago College of Medicine and Surgery. He was born in Balbek, Lebanon.

Dr. Malouf practiced in Peru from 1920 to 1965, when he retired. He had been a member of the ISMA Fifty Year Club since 1966.

## Joseph P. Griffin, M.D.

Dr. Griffin, 71, a retired Chesterton physician, died Dec. 21 at his home.

He was a 1941 graduate of the Medical College of Wisconsin, Milwaukee. He retired in 1982.

Dr. Griffin was a diplomate of the American Board of Dermatology and was a member of the American Academy of Dermatology and the American Academy of Allergy and Immunology.

## John H. Machledt, M.D.

Dr. Machledt, 71, a retired Greenwood physician, died Jan. 21 at his home.

He was a 1937 graduate of Ohio State University College of Medicine.

Dr. Machledt practiced in Whiteland from 1937 to 1965 and then in Greenwood from 1966 until he retired in 1976. He was a staff member at Johnson County Hospital, and was a member of the American Academy of Family Physicians.



Dr. Gillespie

FILE PHOTO

## Charles F. Gillespie, M.D.

Dr. Gillespie, 71, an Indianapolis physician, died Dec. 18 at the Indiana University Medical Center.

He was a 1939 graduate of Indiana University School of Medicine and was an Army veteran of World War II.

Dr. Gillespie was a clinical professor of obstetrics and gynecology at I.U. and practiced at Indiana University Hospital. He was a former ISMA delegate and former ISMA assistant treasurer. He was board-certified and was a fellow of the American College of Obstetricians and Gynecologists and the American College of Surgeons.

## John B. Nicosia, M.D.

Dr. Nicosia, 75, an East Chicago physician, died Dec. 23 at St. Catherine Hospital.

He received the M.D. degree from the University of Naples, Italy, in 1936.

Dr. Nicosia practiced in East Chicago 27 years before entering politics; he served two terms as East Chicago mayor from 1964 through 1971. He was a former ISMA delegate representing Lake County. His memberships included the Industrial Medical Association, American Society of Abdominal Surgeons and the American Academy of Family Physicians.

## Joseph H. Stamper, M.D.

Dr. Stamper, 85, a retired Anderson anesthesiologist, died Dec. 25 in Fort Lauderdale, Fla.

He was a 1926 graduate of Indiana University School of Medicine. He was an Army veteran of World War I and a Navy veteran of World War II.

Dr. Stamper, who retired in 1975, practiced in Middletown from 1928 to 1942; he moved to Anderson in 1949. He was a member of the American Society of Anesthesiologists, and became a member of the ISMA Fifty Year Club in 1976.

## Donald S. Painter, M.D.

Dr. Painter, 65, a retired Fort Wayne physician, died Jan. 20 in Mount Vernon, Ind.

He was a 1943 graduate of Indiana University School of Medicine and was an Army veteran of World War II. He had moved to Bradenton, Fla. in 1982 after retiring from practice as an obstetrician and gynecologist.

Dr. Painter was a former president of the Allen County Medical Society. He was board-certified and was a fellow of the American College of Obstetricians and Gynecologists.

## Chester H. Warfield, M.D.

Dr. Warfield, 86, a retired Fort Wayne radiologist, died Jan. 16 at Parkview Memorial Hospital.

He was a 1925 graduate of Northwestern University Medical School, Chicago, and was a Navy veteran of World War II.

Dr. Warfield, a former president of the Allen County Medical Society, was certified by the American Board of Radiology. He had been chief radiologist at St. Joseph's Hospital, Fort Wayne, from 1946 to 1963, when he retired. He was a fellow of the American College of Radiology and was a past president of the Indiana Roentgen Society.

# THE INDIANA STATE MEDICAL ASSOCIATION

## OFFICERS

President—Paul Siebenmorgen, Terre Haute  
 Pres-elect—Shirley Khalouf, Marion  
 Immed Past Pres—Lawrence E. Allen, Anderson  
 Executive Director—Donald F. Foy, Indpls  
 Treasurer—George H. Rawls, Indpls  
 Asst Treas.—Max Wesemann, Franklin  
 Speaker—Fred W. Dahling, New Haven  
 Vice Speaker—C. Dyke Egnatz, Schererville

## EXECUTIVE COMMITTEE

\*Paul Siebenmorgen, Terre Haute  
 Shirley Khalouf, Marion  
 Lawrence E. Allen, Anderson  
 George H. Rawls, Indpls  
 Max Wesemann, Franklin  
 John D. MacDougall, Beech Grove  
 Fred W. Dahling, New Haven  
 C. Dyke Egnatz, Schererville  
 Mark M. Bevers, Seymour  
 Michael Mellinger, LaGrange

## TRUSTEES (Terms end in October)

### District

- 1—E. DeVerre Gourieux, Evansville (1986)
- 2—Paul J. Wenzler, Bloomington (1987)
- 3—Thomas A. Neathamer, Jeffersonville (1988)
- 4—Mark M. Bevers, Seymour (1986)
- 5—Benny Ko, Terre Haute (1987)
- 6—Clarence G. Clarkson, Richmond (1988)
- \*7—John D. MacDougall, Beech Grove (1986)
- 7—William H. Beeson, Indianapolis (1987)
- 8—William C. VanNess II, Summitville (1987)
- 9—Max N. Hoffman, Covington (1988)
- 10—Nicholas L. Polite, Hammond (1986)
- 11—Edward L. Langston, Flora (1987)
- 12—Michael O. Mellinger, LaGrange (1988)
- 13—John W. Luce, Michigan City (1986)

\*Chairman

## ALTERNATE TRUSTEES (Terms end in October)

### District

- 1—Bruce W. Romick, Evansville (1988)
- 2—Jerome E. Melchior, Vincennes (1986)
- 3—Richard G. Huher, Bedford (1986)
- 4—William E. Cooper, Columbus (1988)
- 5—Fred E. Haggerty, Greencastle (1988)
- 6—Ray A. Haas, Greenfield (1986)
- 7—Donna J. Meade, Indianapolis (1988)
- 7—Michael B. DuBois, Indianapolis (1988)
- 8—Douglas A. Triplett, Muncie (1988)
- 9—R. Adrian Lanning, Noblesville (1986)
- 10—Frank M. Sturdevant, Valparaiso (acting)
- 11—Jack W. Higgins, Kokomo (1986)
- 12—Thomas A. Felger, Fort Wayne (1986)
- 13—Steven M. Yoder, Goshen (1988)

## AMA DELEGATES (Terms end Dec. 31)

Everett E. Bickers, Floyds Knobs (1986)  
 Malcolm O. Scamahorn, Pittsboro (1986)  
 Gilbert M. Wilhelmus, Evansville (1986)  
 Marvin E. Priddy, Fort Wayne (1987)  
 Peter R. Petrich, Attica (1987)  
 Thomas C. Tyrrell, Hammond (1987)

## AMA ALT. DELEGATES (Terms end Dec. 31)

Alvin J. Haley, Carmel (1986)  
 John A. Knote, Lafayette (1986)  
 Robert M. Seibel, Nashville (1986)  
 Martin J. O'Neill, Valparaiso (1987)  
 Herbert C. Khalouf, Marion (1987)  
 Vincent J. Santare, Munster (1987)

## DISTRICT OFFICERS AND MEETINGS

- 1—Pres: Jeffry C. Rendel, Jasper  
 Secy: Syed A. Ali, Boonville  
 Annual Meeting: 1986, Evansville
- 2—Pres: Frederick R. Ridge Jr., Linton  
 Secy: Harry Rotman, Jasonville  
 Annual Meeting:
- 3—Pres: Gordon L. Gutmann, Jeffersonville  
 Secy: Olegario J. Ignacio, Jeffersonville  
 Annual Meeting: 1986, Jeffersonville
- 4—Pres: Rosemary E. Weir, Brownstown  
 Secy: Charles Calhoun, Seymour  
 Annual Meeting: May 7, 1986, Seymour
- 5—Pres: J. F. Swaim, Rockville  
 Secy: Peggy S. Swaim, Rockville  
 Annual Meeting: 1986, Parke-Vernillion Co.
- 6—Pres: Douglas Carter, Shelbyville  
 Secy: William Nesbitt, Connersville  
 Annual Meeting:
- 7—Pres: John M. Records, Franklin  
 Secy: Marshall H. Trusler, Indianapolis  
 Annual Meeting:
- 8—Pres: Conrado R. Miranda III, Winchester  
 Secy: Jerome M. Leahey, Union City  
 Annual Meeting: June 4, 1986, Delaware
- 9—Pres: Walter P. Beaver, Noblesville  
 Secy: Dennis L. Pippenger, Noblesville  
 Annual Meeting: June 11, 1986, Noblesville
- 10—Pres: Frank M. Sturdevant, Valparaiso  
 Secy: Barron M. Palmer, Hammond  
 Annual Meeting: Sept. 25, 1986, Valparaiso
- 11—Pres: Michael Ball, Marion  
 Secy: Fred Poehler, LaFontaine  
 Annual Meeting: Sept. 17, 1986, Marion
- 12—Pres: Antonio Dones, Fort Wayne  
 Secy: Thomas Smith, New Haven  
 Annual Meeting: Sept. 18, 1986, Fort Wayne
- 13—Pres: Michael Thomas, Elkhart  
 Secy: Thomas J. Eberts, South Bend  
 Annual Meeting: Sept. 10, 1986, Elkhart

## COMMISSION CHAIRMEN

Constitution & Bylaws  
 Lloyd L. Hill, Peru  
 Legislation  
 Edward L. Langston, Flora  
 Physician Impairment  
 Larry M. Davis, Indianapolis  
 Public Relations  
 R. Adrian Lanning, Noblesville  
 Medical Services  
 Michael O. Mellinger, LaGrange  
 Convention Arrangements  
 B. Diane Wells, Spencer  
 Medical Education  
 Franklin A. Bryan, Fort Wayne  
 Sports Medicine  
 Ronald G. Blankenbaker, Indianapolis

## COMMITTEE CHAIRMEN

Negotiations  
 John A. Knote, Lafayette  
 Medical Education Fund  
 John W. Beeler, Indianapolis  
 Grievance  
 G. Beach Gattman, Elkhart  
 Future Planning  
 W.C. Van Ness II, Alexandria  
 Medico-Legal  
 John W. Beeler, Indianapolis  
 Indiana Medical Foundation  
 Frank B. Ramsey, Indianapolis  
 Reduce Drunk Driving  
 Michael DuBois, Indianapolis

## SECTION OFFICERS

ANESTHESIOLOGY  
 Chmn: Steven R. Young, Carmel  
 Secy: Donald L. Weninger, Michigan City  
 CUTANEOUS MEDICINE  
 Chmn: Donald W. Smith, South Bend  
 Secy: Mary C. Greist, Indianapolis  
 DIRECTORS OF MEDICAL EDUCATION  
 Chmn: Glenn D. Baird, Evansville  
 Secy: Thomas P. Dunfee, South Bend  
 EMERGENCY MEDICINE  
 Chmn: Kenneth L. DeHart, Kokomo  
 Secy: Eve Olson, Indianapolis  
 FAMILY PRACTICE  
 Chmn: Bernard J. Emkes, Indianapolis  
 Secy: William C. Spence, Knightstown  
 INTERNAL MEDICINE  
 Chmn: Dennis E. Stone, Columbus  
 Secy: Robert L. Rudesill, Indianapolis  
 MEDICAL DIRECTORS & STAFF  
 PHYSICIANS OF NURSING FACILITIES  
 Chmn: Hugh K. Thatcher, Indianapolis  
 Secy: Ivan T. Lindgren, Aurora  
 NEUROLOGY  
 Chmn: Charles A. Bonsett, Indianapolis  
 (Pro Tem)  
 Secy:  
 NEUROLOGICAL SURGERY  
 Chmn: Daniel F. Cooper, Indianapolis  
 Secy: Marvin R. Bernard, Merrillville  
 NUCLEAR MEDICINE  
 Chmn:  
 Secy: Aslam R. Siddiqui, Indianapolis  
 OBSTETRICS & GYNECOLOGY  
 Chmn: J. Robert Stanley, Muncie  
 Secy: William E. Graham, Fort Wayne  
 OPHTHALMOLOGY  
 Chmn: Forrest Ellis, Indianapolis  
 Secy: Gerald Keener, Indianapolis  
 ORTHOPAEDIC SURGERY  
 Chmn: Ben Woodward, Evansville  
 Secy: Wade Rademacher, Beech Grove  
 OTOLARYNGOLOGY, HEAD & NECK  
 SURGERY  
 Chmn: William E. Cooper, Columbus  
 Secy: Richard T. Miyamoto, Indianapolis  
 PATHOLOGY & FORENSIC MEDICINE  
 Chmn: Merritt O. Alcorn, Madison  
 Secy: Arthur C. Jay, Columbus  
 PEDIATRICS  
 Chmn: Michael A. Hogan, Indianapolis  
 Secy: Kenneth C. Castor, Fort Wayne  
 PREVENTIVE MEDICINE & PUBLIC  
 HEALTH  
 Chmn: Jane M. Irmischer, Fort Wayne  
 Secy: Francis B. Warrick, Richmond  
 PSYCHIATRY  
 Chmn: Philip M. Coons, Indianapolis  
 Secy: Cheryl G. Friedman, Noblesville  
 RADIOLOGY  
 Chmn: Robert W. Holden, Plainfield  
 Secy: Richard L. Pitman, Columbus  
 SURGERY  
 Chmn: John D. Pulcini, Evansville  
 Secy: Ted W. Grisell, Indianapolis

## ISMA KEY STAFF PERSONNEL

Donald Foy—Executive Director  
 Michael Huntley—Assoc Exec Director  
 Richard King—Attorney, IMPAC, Lobbyist,  
 Assoc Exec Director  
 Ronald Dyer—Attorney, Assoc Exec Director  
 John Wilson—Accountant  
 Adele Lash—Communications  
 Howard Grindstaff—Field Services  
 Sara Klein—Field Services  
 Bob Sullivan—Field Services, AMA Relations  
 Mary Alice Cary—Executive Assistant  
 Rosanna Her—Membership, Auxiliary  
 Beckett Shady King—CME, Travel, House of  
 Delegates  
 Karyl Hancock—Convention Coordinator,  
 Meetings  
 Tom Martens—Members' Health Insurance  
 Carol Ann Cunningham—Resident Medical  
 Society, Specialty Society Services  
 Martin Badger—INDIANA MEDICINE



# COMMERCIAL ANNOUNCEMENTS

**PSYCHIATRIST**—Psychiatric Services Division of general hospital offers part-time contract hours to Board-eligible or certified Psychiatrist at satellite offices located in Frankfort and Tipton, Indiana. Qualified candidates may contact Steven W. Adrianse, Director of Personnel Services, or Dr. Robert Adams, 3500 S. Lafountain, Kokomo, IN 46902—(317) 453-8560. EOE M/F/H

**DIAGNOSTIC RADIOLOGIST**, also Board-certified in Nuclear Medicine, seeks position in central Indiana. 8 years experience as director of nuclear medicine, major university hospital. Competent in CT Scanning, ultrasound and special procedures. Phone Dr. H. Kidman, (317) 787-3296.

**CONDOMINIUM FOR SALE**—Pointe, Lake Monroe. 2 bedrooms, with 3rd in loft. 1 bath. All G.E. appliances and window treatments included. Never a rental. Immaculate. \$49,500. (317) 253-7280 (home).

**OFFICE SPACE AVAILABLE:** Greenwood Professional Park. Excellent accommodations in an established medical complex. Attractive. Well landscaped setting. Plenty of convenient parking. Complete laboratory and radiological services on premises. Centrally located in the fastest growing area of Indiana. Two miles from new University Heights Hospital. Ideal location for the individual practitioner or as an additional location for group practices. Ready for occupancy. No leasehold expenses required. For additional information, please call (317) 881-3565.

**1986 CME CRUISE/CONFERENCES ON SELECTED MEDICAL TOPICS**—Caribbean, Mexican, Hawaiian, Alaskan, Mediterranean. 7-12 days year-round. Approved for 20-24 CME Cat. 1 credits (AMA/PRA) and AAFP-prescribed credits. Distinguished professors. FLY ROUND-TRIP FREE ON CARIBBEAN, MEXICAN AND ALASKAN CRUISES. Excellent group fares on finest ships. Registration limited. Pre-scheduled in compliance with present IRS requirements. Information: International Conferences, 189 Lodge Ave., Huntington Station, N.Y. 11746—(516) 549-0869.

**EMERGENCY MEDICINE POSITION AVAILABLE:** Excellent opportunity for experienced emergency physician to join career emergency group practicing in northwestern Indiana, near Chicago. If you have over 4,000 hours experience, please contact Laurie Perkins at (312) 327-0777.

**EMERGENCY MEDICINE** Position Available: Opportunity for experienced Emergency Physician to work weeknights 6 p.m. to 8 a.m., Kendallville, Ind. Contact Mr. John F. Ling Jr., Administrator (219) 347 1100, ext. 120.

**OFFICE SPACE AVAILABLE:** Franklin, Indiana. Lease or sell. 1500 sq. ft. new medical office ready for occupancy. Waiting room, business office, consultation room, nurses station, four exam rooms. Cathedral ceilings. Skylights. One minute drive west of Johnson County Memorial Hospital in rural setting. Beautiful view. For additional information, please call (317) 736-7310.

**FOR SALE:** Brand new EEG class instrument. 10 channels, unused, with other accessories. Good price. Call (812) 232-6886 during business hours.

**CONDO FOR RENT**, Marco Island, Fla. Available spring vacation week, April 5-12, 1986. Low-rise, 2 bedroom, 2 bath, sleeps six, vaulted ceiling, washer/dryer. Walk right out onto beautiful beach. Fantastic sunsets. Pool, tennis, water sports on site. Golf nearby. \$995. Call (317) 848-0001 after 6 p.m.

**INDIANA, NORTH OF INDIANAPOLIS:** Immediate full time and part time positions in newly renovated emergency department at 135-bed facility. Hourly salary, flexible scheduling, malpractice insurance provided. For more information, contact: Emergency Consultants, Inc., 2240 South Airport Road, Room 20, Traverse City, MI 49684; 1-800-253-1795 or in Michigan, 1-800-632-3496.

**STAFF PSYCHIATRIST**—Immediate opening for full-time staff psychiatrist (bd. elig./cert.) to join full-time medical director at developing CMHC in Indianapolis area. Inpt., outpat., consult., and day hosp. svc. I.U. Med. Ctr. in nearby Indpls. Competitive sal. and bnfts. Reply to Susan M. Anderson, M.D., Medical Director, Cummins MHC, P.O. Box 158, Danville, IN 46122.

**VERSATILE SURGEON** wanted to complement aggressive family practice group in rural north-eastern Minnesota resort community. Well equipped 40-bed hospital with proven surgical practice volume. Outstanding outdoor recreational opportunities with time off to enjoy it. Reply with CV to E. Johnson, Ely Medical Center, Ltd., 224 E. Chapman St., Ely, Minn. 55731—(218) 365-3151.

**DIRECTOR OF INPATIENT PSYCHIATRIC SERVICES**—Psychiatric Services Division of 152-bed general hospital offers immediate opportunity to Board-eligible or certified Psychiatrist to serve as Director of Psychiatric Inpatient Services. Responsibilities include: Diagnosis, treatment and disposition of inpatient clientele; supervision of professional staff; development of clinical services; consultations; evaluations and forensic services. Work in the progressive atmosphere of our \$5.1 million Psychiatric wing due to open in the fall of 1985. Enjoy a liberal fringe benefit package which includes health, dental and life insurance and a generous non-contributory pension program. Salary range is approximately \$65,000 to \$100,000 commensurate with experience. Contact: Steven W. Adrianse, Director of Personnel Services, or Dr. Robert Adams, Medical Director Psychiatric Services, Howard Community Hospital, 3500 S. Lafountain, Kokomo, IN 46902—(317) 453-8560. EOE M.F.H.

**ACTIVE SOLO G.P. RETIRING**—Office 30x60 with attached garage on 114x250 lot, 18 parking spaces. Full basement, fully furn. paneling and carpeting. University town 10,000. New 85-bed hosp. Will introduce. Adequate for two M.D.s. F.R. Dettloff, 407 Melrose Ave., Greencastle, Ind. 46135—(317) 653-9789 or (317) 653-4806.

**ANESTHESIOLOGIST**, BE, available for locum tenens work. Licensed in Indiana and Michigan. CV on request. Please contact: W. T. Kirsten, M.D., P.O. Box 542, Lapeer, Mich. 48446 or call (313) 667-9309.

**PEDIATRIC PRACTICE** for sale. Immediately available, northside Indianapolis. Well established. Completely equipped office. Write P.O. Box 40401, Indianapolis, Ind. 46240, or call (317) 251-4819 (after 6 p.m.).

**MEDICAL PRACTICE SALES AND APPRAISALS:** We specialize in the valuation and selling of medical practices. If interested in buying or selling a medical practice, contact our Brokerage Division at: The Health Care Group, 400 GSB Building, Bala Cynwyd, Pa. 19004—(215) 667-8630.



# NEUROVASCULAR MEETING

April 17-19, 1986 Chicago

## NEUROVASCULAR DIAGNOSIS & TREATMENT HEART, BRAIN and ARTERIES COMPETITION and MANAGEMENT STRATEGIES

### Courses:

- HEADACHE and NEUROVASCULAR SURGERY
- INTRACRANIAL DOPPLER and BRAIN HEMODYNAMICS
- ORGANIZATION of the NEUROVASCULAR LABORATORY
- VERTEBRAL ARTERY SURGERY in the NECK and at the SKULL BASE

*For program and information, write*

NVSNA/SNVS Box 679

Oak Park, IL 60302

or call (312) 482-3950

## Are You Moving?

If so please send change of address to Membership Dept., ISMA, 3935 N. Meridian St., Indianapolis Ind. 46208, at least six weeks before you move.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

County \_\_\_\_\_

Tel: Office \_\_\_\_\_ Tel: Home \_\_\_\_\_

IMPORTANT—Attach mailing label from your last copy of INDIANA MEDICINE here.

## ADVERTISERS INDEX

March 1986

Vol. 79

No. 3

American Physicians Life .....	263
Brown Pharmaceutical Co., Inc. ....	217
Campbell Laboratories .....	219
Central Pharmaceuticals, Inc. ....	273
Commercial Announcements .....	291
Eli Lilly & Company .....	221
Halderman Farm Management .....	253
Indiana Medical Bureau .....	252
Indiana Medical Foundation .....	288
Knoll Pharmaceutical .....	222-224
Lincoln National Life .....	271
Marion Laboratories .....	267-268
McGraw-Hill .....	248
Medical Accounts Group, Inc. ....	233
Medical Protective Company .....	278
Neurovascular Society of America .....	292
Peoples Drug .....	215
Physicians' Directory .....	279-287
Physicians Insurance Co. of Indiana ...	Cover
Roche Laboratories .....	Covers
Smith Kline & French .....	249
Tipton Cohen & Koch .....	276
Upjohn Company .....	250
U.S. Air Force .....	266, 276

In accepting advertising for publication, INDIANA MEDICINE has exercised reasonable precaution to insure that only reputable, factual advertisements are included. However, we do not have facilities to make comprehensive or complete investigation, and the claims made by advertisers in behalf of goods, services and medicinal preparations, apparatus or physical appliances are to be regarded as those of the advertisers only. Neither sanction nor endorsement of such is warranted, stated or implied by the association.

# PHYSICIAN'S GUIDE TO INDIANA LAW





**The Indiana State Capitol Building**



## PHYSICIAN'S GUIDE TO INDIANA LAW

This booklet is intended to alert physicians to Indiana law affecting certain aspects of their practice. The booklet is not an all-inclusive listing of all laws which may affect a physician's practice. In some cases excerpts from the Indiana Code or Indiana Administrative Code have been quoted. In other cases relevant code sections have been paraphrased and some case law summarized.

The statutes and rules cited are those in effect as of October 1, 1985. Since amendments occur frequently, and excerpts can be misinterpreted when viewed in isolation, the full text of a relevant code section or rule should always be consulted. Physicians are advised to consult a lawyer knowledgeable in health care law for answers to specific questions.

**NOTE:** Throughout the text of this booklet, and where context admits, the singular shall imply both the singular and plural. Also, masculine pronouns shall imply both the masculine and feminine. The abbreviations IC and IAC refer to the Indiana Code and the Indiana Administrative Code, respectively.

prepared by  
Office of General Counsel  
Gregory Bowes, J.D.  
Ronald L. Dyer, J.D.  
Richard R. King, J.D.

Indiana State Medical Association  
3935 North Meridian Street  
Indianapolis, Indiana 46208  
317-925-7545; 800-382-1721 (Indiana only)

## TABLE OF CONTENTS

ABORTION .....	1
ADULT ABUSE .....	1
ADVANCED EMERGENCY MEDICAL TECHNICIAN .....	2
ANATOMICAL GIFTS .....	2
BIRTH CERTIFICATES .....	2
CHILD ABUSE .....	2
CLAIMS AGAINST DECEASED PERSONS .....	3
COMMITMENT OF MENTALLY ILL PERSONS .....	3
Voluntary Commitment .....	3
Involuntary Commitment .....	3
CONFIDENTIAL PATIENT INFORMATION .....	4
CONSENT TO TREAT .....	4
CONTINUING MEDICAL EDUCATION .....	5
CONTROLLED SUBSTANCES .....	5
DEATH REPORTS .....	6
DEFINITION OF DEATH .....	6
DETERMINATION OF NEED (Health Planning) .....	6
DRUNK DRIVING .....	6
EMERGENCY MEDICAL TECHNICIAN .....	6
EMPLOYEES .....	6
EXPERT WITNESS .....	7
EYE ENUCLEATION .....	7
FOREIGN MEDICAL GRADUATES .....	7
GENERIC DRUG SUBSTITUTION .....	7
GOOD SAMARITAN LAW .....	7
GROUND FOR DISCIPLINE .....	8
IMMUNITY TO SUIT .....	9
JURY DUTY .....	9
LAETRILE .....	9
LICENSURE .....	9

## TABLE OF CONTENTS (CONT.)

LIVING WILL .....	10
MALPRACTICE .....	11
Limitation of Claims .....	11
Patient's Compensation Fund .....	11
Medical Review Panel .....	12
Payment of Claims; Structured Settlements .....	12
Statute of Limitations .....	13
Lawyer Fees .....	13
Residual Insurance .....	13
Review of Provider Fitness .....	13
MEDICAID .....	13
MEDICAL RECORDS .....	13
MEDICARE .....	14
MIDWIVES .....	14
MINORS, TREATMENT OF .....	14
NURSES .....	14
Registered Nurse .....	14
Licensed Practical Nurse .....	15
Nurse Practitioner .....	15
Nurse Midwife .....	15
PARAMEDIC .....	15
PEER REVIEW .....	16
PHYSICIAN'S ASSISTANT .....	16
REPORTING REQUIREMENTS .....	17
REQUIRED IMMUNIZATIONS .....	18
SEX CRIMES .....	18
STATUTES OF LIMITATION .....	19
UTILIZATION REVIEW .....	19
VENEREAL DISEASE .....	19
WORKMEN'S COMPENSATION .....	19



## ABORTION

Abortion is a criminal act unless it is done according to the specifications of **IC-35-1-58.5-1 et seq.** In all cases the physician must have the consent of the pregnant woman unless "the abortion is necessary to preserve the life of the woman." **IC 35-1-58.5-2.** Special consent requirements for women under the age of eighteen (18) are outlined in **IC 35-1-58.5-2.5.** Under this section, an abortion cannot be performed on a minor without the consent of one of the parents of the minor or a legal guardian, unless the minor petitions the juvenile court for a waiver of the parental consent requirement. The juvenile court must waive the parental consent requirement "if the court finds that the minor is mature enough to make the abortion decision independently or that an abortion would be in the minor's best interest." **IC 35-1-58.5-2.5(d).**

The requirements for abortion are different depending on the length of the pregnancy. There are three periods of the pregnancy set out in the statute: 1) the first trimester; 2) after the first trimester and before viability; and 3) after viability. **IC 35-1-58.5-1** defines viability as "the ability of a fetus to live outside the mother's womb." Under **IC 35-1-58.5-3** it is the responsibility of the attending physician to determine the stage of the pregnancy.

For an abortion in the first trimester the only requirements are that the proper consent be obtained and the abortion be performed by a physician. After the first trimester and before the point of viability there is an additional requirement that the abortion be performed in a hospital or ambulatory outpatient surgical center as defined in **IC 16-10-1-6.**

An abortion performed after viability can only be done if the attending physician certifies in writing to the hospital where the abortion will be performed that "in his professional, medical judgment, after proper examination and review of the woman's history, the abortion is necessary to prevent a substantial impairment of the life or physical health of the pregnant woman." **IC 35-1-58.5-2(3)(c).** Any abortion in this third category must be "performed in a hospital having premature birth intensive care units" unless an emergency exists and must be done in the presence of a second physician. The second physician has a duty to "take control of and provide immediate care for a child born alive as a result of the abortion." **IC 35-1-58.5-7.**

Any person who knowingly or intentionally performs an abortion not in compliance with the law commits a Class C felony. **IC 35-1-58.5-4(a).** A physician who performs an abortion on a minor without obtaining parental consent or a waiver of that consent by a juvenile court commits a Class A misdemeanor. **IC 35-1-58.5-4(b).**

Physicians performing abortions must report certain information for each case to the Indiana State Board of Health on forms provided by the board. Each failure to file a form is a Class B misdemeanor. **IC 35-1-58.5-5.**

Private or denominational hospitals shall not be required to allow their facilities to be used for abortions. **IC 16-10-3-1.** In addition, no physician or employee of a hospital shall be required to participate in abortion procedures, **IC 16-10-3-2,** nor may state funds be used to pay for abortions. **IC 16-10-3-3.**

## ADULT ABUSE

Any person who believes or has reason to believe an "endangered adult" (See **IC 4-27-7-2** for definition) is a victim of neglect, battery, or exploitation must report the case to the local adult protective services unit or a law enforcement agency. Failure to report constitutes a Class C infraction which carries a fine of up to \$500.00. **IC 35-46-1-13.** Indiana has set up a toll-free hot line to collect reports of adult abuse. That number is 1-800-992-6978.

"A person who in good faith either makes a report required to be made under this chapter or testifies in any administrative or judicial proceeding on matters arising from the report is immune from both civil and criminal liability due to the offering of that report or testimony. . . . No employer may discharge, demote, transfer, prepare a negative work performance evaluation, or reduce benefits, pay, or work privileges, or take any other action to retaliate against an employee who in good faith files a report. . . ." **IC 4-27-7-8.**

## ADVANCED EMERGENCY MEDICAL TECHNICIAN (Advanced EMT)

In addition to being trained as an Emergency Medical Technician, an Advanced EMT is trained "to perform intravenous line placement and fluid administration, under the direct supervision of a physician in person, or via voice communication. . . ." 836 IAC 2-9-1. The Advanced EMT must be certified by the Indiana Emergency Medical Services Commission and must be affiliated with an ambulance provider organization and associated with a single sponsoring hospital. IC 16-1-40-1(f).

See also: **EMERGENCY MEDICAL TECHNICIAN** and **PARAMEDIC**.

## ANATOMICAL GIFTS

"Any individual of sound mind and eighteen (18) years of age or more may give all or part of his body for any purpose . . . the gift to take effect upon death." IC 29-2-16-2(a). If a deceased person has not made a gift, other persons may make a gift of the deceased person's body in whole or in part, in the following order of priority: 1) the decedent's spouse, 2) the decedent's adult sons or daughters, 3) either of the decedent's parents, 4) an adult brother or sister of the decedent, 5) a guardian of the decedent at the time of his death, or 6) any other person authorized or under obligation to dispose of the body. If a member in the same or higher priority objects to a donation, no gift shall be made. IC 29-2-16-2. Any physician, hospital, medical or dental school, organ bank, or specified individual for transplantation needed by him may receive an anatomical gift. IC 29-2-16-3.

An anatomical gift may be made by will, document, or a card designed to be carried on the person of the donor. The card or document must be signed by the donor and two witnesses. IC 29-2-16-4. The back of all Indiana drivers' licenses have a form for making a gift of organs.

The physician attending the donor at death shall certify the time of death, but shall not participate in the procedures for removing or transplanting a part. IC 29-2-16-7.

See also: **EYE ENUCLEATION**.

## BIRTH CERTIFICATES

"The person in attendance at a live birth shall file a certificate of birth with the local health officer." IC 16-1-16-1. "The certificate of birth shall be filed within five (5) days after the birth occurs." IC 16-1-16-3.

"A child born illegitimate shall be recorded under the name of the mother." IC 16-1-16-15.

"Disclosure of birth out of wedlock or of information from which it can be ascertained may be made only upon order of a court." IC 16-1-16-6(b).

See also: **REQUIRED IMMUNIZATIONS, REPORTING REQUIREMENTS** and **VENEREAL DISEASE**.

## CHILD ABUSE

Any individual who has reason to believe a child is a victim of child abuse or neglect shall make an oral report to the local child protection service or law enforcement agency. IC 31-6-11-5. "Any person required to report cases of known or suspected child abuse or neglect who is also a health care provider, or person in charge of a hospital or similar medical institution treating the child, shall cause photographs to be taken of the areas of trauma visible on the child who is the subject of report. If medically indicated, a physician may cause radiological examination or a physical medical examination, or both, of the child to be performed." IC 31-6-11-6. The photographs and summaries of examinations shall be sent to the local child protection service and the State Department of Public Welfare will reimburse the reasonable costs of the photographs and examinations. IC 31-6-11-6.

There is a special qualified immunity for health care providers who investigate child abuse. "A person, other than a person accused of child abuse or neglect, who:

- 1) Makes or causes to be made a report of a child who may be a victim of child abuse or neglect;
- 2) Is a health care provider and detains a child for purposes of causing photographs,



- 3) Makes any other report of a child who may be a victim of child abuse or neglect; or
- 4) Participates in any judicial proceeding or other proceeding resulting from a report that a child may be a victim of child abuse or neglect, or relating to the subject matter of such report;

is immune from any civil or criminal liability that might otherwise be imposed because of such actions. However, immunity does not attach for any person who has acted maliciously or in bad faith. A person making a report that a child may be a victim of child abuse or neglect . . . is presumed to have acted in good faith." **IC 31-6-11-7.**

An individual who fails to report a case of child abuse or neglect of which he has knowledge commits a Class B misdemeanor. A health care provider who does not report the findings of his examinations commits a Class B misdemeanor in addition to the misdemeanor committed in his capacity as an individual. **IC 31-6-11-20.**

## **CLAIMS AGAINST DECEASED PERSONS**

All claims against the estate of a deceased person must be brought within five (5) months after the first published notice to creditors, or within three (3) months after a court has revoked probate of a will, whichever is later. **IC 29-1-14-1.** There are seven classes of claims against an estate. If the assets of the estate are insufficient to cover all claims, the personal representative of the deceased must pay claims from the highest classes first until the assets of the estate are exhausted. Debts and taxes which are preferred under the laws of the United States fall into the fourth class. Reasonable and necessary medical expenses of the last sickness of the deceased fall into the fifth class. Debts which are preferred under Indiana law fall into the sixth class. All claims which are not preferred, secured or an expense of the administration of the estate or funeral fall into the last class. **IC 29-1-14-9.**

## **COMMITMENT OF MENTALLY ILL PERSONS**

### **Voluntary Commitment**

A person may submit himself to voluntary treatment for a mental illness in an appropriate institution upon making an application. **IC 16-14-9.1-2(a).** The superintendent of the mental health facility or the attending physician may discharge the patient if he believes that care in that facility is not necessary. If the patient requests his release in writing, he must be released unless the superintendent or the attending physician determines that the patient is dangerous or gravely disabled (as defined by **IC 16-14-9.1-1(b)** and (c)). If the patient is held because he is believed to be dangerous or gravely disabled, the superintendent or the attending physician must submit a report within five (5) days to the appropriate county court. That court must hold a preliminary hearing within two (2) days to determine whether the patient is either gravely disabled or dangerous and in need of temporary commitment. A final hearing must be held within ten (10) days of the preliminary hearing. "At the final hearing, no person may be committed temporarily unless at least one physician who has personally examined the person testifies at the hearing." **IC 16-14-9.1-2(d).**

### **Involuntary Commitment**

There are three ways a person may be involuntarily detained or committed for the purpose of obtaining treatment for a mental illness. In all cases there must be a showing that the person is "gravely disabled" or "dangerous." In all cases a physician must examine the person and submit a written statement to the appropriate county court that the person is either gravely disabled or dangerous and in need of treatment.

The first method is the "emergency detention." A court may order the detention of a person for up to 72 hours upon application of any person and a written statement of the examining physician. Within 24 hours of the detention order (excluding weekends and holidays) the court must either order the person's release or order a hearing within two (2) days of the order to determine if the person should be temporarily committed. **IC 16-14-9.1-7.**

The second method is the "temporary commitment." It is usually an extension of the emergency detention, but may be done alone. Under this method, a court may order a person's commitment for up to ninety (90) days, but only after a hearing to determine whether the person is gravely disabled or dangerous. The period of temporary commitment may be extended for an additional



period of up to ninety (90) days if the superintendent of the institution or the attending physician reports that the person is in need of further treatment and a second hearing is held. IC 16-14-9.1-9.

The third method is the "regular commitment." Within twenty (20) days of the end of the temporary commitment period, the superintendent of the facility or the attending physician may report in writing that the person is in need of care and treatment which is expected to exceed ninety (90) days. A hearing must be held to determine if the person should be committed indefinitely. This method may be used for persons who have not been detained under emergency detention or temporary commitment proceedings, but the person may not be detained until a determination has been made at a final hearing. Under regular commitment, the court may appoint a guardian for the patient and the superintendent of the facility or the attending physician must make out a report of the patient's condition to the court annually or more often if ordered by the court. IC 16-14-9.1-10.

## CONFIDENTIAL PATIENT INFORMATION

IC 34-1-14-5 states: Physicians shall not be competent witnesses "as to matters communicated to them, as such, by patients, in the course of their professional business, or advice given in such cases. IC 34-1-14-5 is a codification of the so-called "physician-patient privilege." Because it is the patient who holds this privilege, a physician must normally hold any information obtained from his patient in complete confidence unless the patient waives the privilege.

A patient can waive his privilege in several ways. He waives by making the confidential information public. He waives by putting his physical condition at issue at a trial. See Indiana Trial Rule 35. He can waive by authorizing the physician to release the information. When the patient authorizes the release of his medical records, the physician should require that the release be in writing and signed by the patient. The physician should then release only the information that has been authorized and only to those persons authorized by the patient.

In addition to those cases where the patient waives, there are other situations where the physician-patient privilege does not exist. There is no privilege where the physician's testimony or evidence relates to suspected child abuse. IC 31-6-11-8. With regard to investigations of drunk driving offenses, a physician may not withhold the results of a blood test, or other test from a law enforcement officer who requests it. IC 9-11-4-6. This section also gives physicians specific immunity from civil liability for releasing test results, or for testifying at trial as to the patient's condition or opinions formed about the patient by the physician.

See also **EXPERT WITNESS, REPORTING REQUIREMENTS, MEDICAL RECORDS** and **WORKMEN'S COMPENSATION**.

## CONSENT TO TREAT

Indiana requires, as do most other states, that a patient give "informed consent" before a physician may treat. Without "informed consent", a physician may be liable for treating a patient in a negligent manner.

To make a patient's consent "informed," a physician must "make a reasonable disclosure of material facts relevant to the decision which the patient is requested to make." *Revord v. Russell*, 401 N.E.2d 763,766 (Ind. App. 1980). A reasonable disclosure of relevant facts includes explaining 1) the risks of the suggested treatment, 2) alternatives to the suggested treatment, and 3) the risks involved if the condition is left untreated.

A physician need not make an endless list of all risks including those which occur only infrequently. He must, however, disclose those risks which a reasonable physician would have disclosed under the same or similar circumstances. *Revord*. In addition, a patient may not say a physician was negligent because he failed to obtain "informed consent" if it can be shown that the patient would have consented to the treatment if he had been adequately informed.

Questions about consent frequently arise where the patient is incompetent or is not an adult. If a patient is under the age of eighteen (18), one parent who has custody may consent to the minor's treatment. If there is no parent, a legal guardian or a juvenile court must give consent before the minor can be treated. IC 16-8-3-1(c). If a minor is married, he can give consent for his own treatment. IC 16-8-4-1. If a patient has been adjudged incompetent, his legal guardian or the superintendent of the institution where he is committed may give consent to treat. IC 16-8-3-1(c). A minor may consent to treatment of a venereal disease without consent of a parent. IC 16-8-5-1.

As a general rule of law, if a person is unconscious and no one is available who is legally authorized to act as agent for the patient, a physician has implied consent to deliver medical services necessary to prevent serious bodily injury or loss of life. Consent is "implied" only in an emergency where time is of the essence. Prosser on Torts, Consent § 18 (1984 5th Ed.).

See also **ABORTION** and **LIVING WILL**.

## CONTINUING MEDICAL EDUCATION

Indiana does not require a physician to obtain Continuing Medical Education credit as a condition of licensure. Many specialty boards, however, do require Continuing Medical Education as a condition of board certification. Continuing Medical Education credit can be obtained through the American Medical Association, or through the respective specialty boards. In addition, the Indiana University School of Medicine is an organization accredited for Continuing Medical Education. As part of its program, it offers one credit hour in Category 1 each month in *Indiana Medicine*.

## CONTROLLED SUBSTANCES

Under **IC 35-48-3-3(a)**, "Every person who manufactures, distributes, or dispenses any controlled substance within this state . . . must obtain annually a registration issued by the [Indiana State] board [of Pharmacy] in accordance with its rules." In addition, "persons registered to manufacture, distribute, or dispense controlled substances . . . shall keep records and maintain inventories in conformance with the record keeping and inventory requirements of federal law and with any additional rules the [Indiana State] board [of Pharmacy] issues." **IC 35-48-3-7**. The address of the Indiana State Board of Pharmacy is: 964 North Pennsylvania, Indianapolis, Indiana 46204, (317) 232-2960.

Controlled substances are classified in five categories according to the following criteria:

**Schedule I** - high potential for abuse; no accepted medical use in treatment in the United States; or lacks accepted safety for use in treatment under medical supervision. **IC 35-48-2-3**.

**Schedule II** - high potential for abuse; currently accepted medical use in treatment in the United States; currently accepted medical use with severe restrictions; and abuse may lead to severe psychic or physical dependence. **IC 35-48-2-5**.

**Schedule III** - potential for abuse less than the substances listed in Schedules I and II; currently accepted medical use in treatment in the United States; and abuse may lead to moderate or low physical dependence or high psychological dependence. **IC 35-48-2-7**.

**Schedule IV** - low potential for abuse relative to substances in Schedule III; currently accepted medical use in treatment in the United States; and abuse may lead to limited physical or psychological dependence relative to the substances in Schedule III. **IC 35-48-2-9**.

**Schedule V** - low potential for abuse relative to substances listed in Schedule IV; currently accepted medical use in treatment in the United States; and has limited physical or psychological dependence relative to the substances in Schedule IV. **IC 35-48-2-11**.

Drugs in Schedule I may not be prescribed or dispensed unless the practitioner is specifically entitled to do so in his registration with the State Board of Pharmacy. **IC 35-48-3-4(b)**. Schedule II drugs must either be dispensed directly by a practitioner other than a pharmacist or it may be dispensed pursuant to a written prescription of a practitioner. If an emergency exists, a Schedule II drug may be dispensed pursuant to an oral prescription which is promptly reduced to writing. Schedule II prescriptions may not be refilled. **IC 35-48-3-9**.

Schedule III or IV drugs may be dispensed directly by a practitioner other than a pharmacist, or pursuant to an oral or written prescription. Drugs in Schedules III and IV may be refilled up to five (5) times within six (6) months of the date of prescription. **IC 35-48-3-9(c)**.

Drugs in Schedule V may be dispensed by a pharmacist licensed by the State Board of Pharmacy who maintains an exempt narcotic register. Practitioners may also dispense or prescribe Schedule V drugs. **IC 35-48-3-9(d); IC 35-48-4-7(b)**.

It is unlawful to sell or possess controlled substances unless under the laws mentioned above. The penalties for unlawful sale or possession of controlled substances vary depending on amounts and classifications of the drugs, and the culpability involved. See **IC 35-48-4-1 et seq.**

See also **GENERIC DRUG SUBSTITUTION**.



## DEATH REPORTS

The physician last in attendance shall certify the cause of death of a deceased person on the certificate of death or stillbirth. **IC 16-1-17-3.** If the death was not attended by a physician, or if the physician last in attendance is physically or mentally unable to sign the certificate of death or stillbirth, then the local health officer is empowered to make an inquiry into the cause of death and certify the cause of death on the basis of that information. **IC 16-1-17-4.**

If a death was caused by other than natural causes, the attending physician shall refer the case to the county coroner for investigation. If there was no attending physician, the local health officer shall refer the case to the county coroner. **IC 16-1-17-5.**

See also **REPORTING REQUIREMENTS.**

## DEFINITION OF DEATH

There is no statutory definition of death in Indiana. There is, however, a leading Indiana Supreme Court decision which defines death in a criminal case. That decision, *Swatford v. State*, 421 N.E.2d 596 (Ind. 1981), defines death as "either 1) irreversible cessation of circulatory and respiratory functions, or 2) irreversible cessation of total brain functions." The court further states: "A determination of death must be made in accordance with accepted medical standards."

## DETERMINATION OF NEED (Health Planning)

Indiana's health planning law requires that certain expenditures for major equipment or hospital construction be approved by the State Board of Health. The purpose is to ensure that health facilities do not make investments which duplicate existing resources or create excess capacity.

A health care facility must obtain a determination of need from the State Board of Health for every "capital expenditure" in excess of \$750,000 and every purchase of "major medical equipment" that costs more than \$750,000. A capital expenditure which does not increase the bed capacity of a facility or does not convert existing beds to long-term care beds need not be reviewed by the State Board. In addition, no review is needed when capital expenditures of purchases of major medical equipment are made for a health care facility, including a physician's office, which has no inpatient services. **IC 16-1-3.3-1.**

In making a determination of need, the State Board of Health shall review the availability of alternative resources, the impact of the expenditure on the cost of health care in the community, health care market conditions, the effects of the expenditure on existing utilization review, quality assurance and cost containment programs, and the competitive factors of the free enterprise system. **IC 16-1-3.3-6.** A hearing of all interested parties must be held by an independent hearing officer in the county where the expenditure is to be made. **IC 16-1-3.3-4.** The expenditure may not be made until a final determination of need has been made by the State Board of Health. **IC 16-1-3.3-12.**

## DRUNK DRIVING

Please see **CONFIDENTIAL PATIENT INFORMATION.**

## EMERGENCY MEDICAL TECHNICIAN (EMT)

An EMT is a person who is trained to perform basic emergency procedures such as evaluation and assessment of injury or illness, monitoring of vital functions, treatment of shock, control of hemorrhage, immobilization of fractures, bandaging, child birth assistance, multiple patient triage, patient extrication and transportation, oxygen administration, and cardiopulmonary resuscitation. The EMT must have completed an Indiana Emergency Medical Services Commission approved basic training course and hold a valid certificate issued by the EMS Commission. **IC 16-1-39-1 et seq.**

See also: **ADVANCED EMERGENCY MEDICAL TECHNICIAN** and **PARAMEDIC.**

## EMPLOYEES

Please see **PHYSICIAN'S ASSISTANT.**



## EXPERT WITNESS

"A witness who is an expert in any art, science, trade, profession or mystery may be compelled to appear and testify in any court in the county of the residence of the witness or any court in the adjoining county to an opinion, as such expert, in relation to any matter, whenever such opinion is material evidence relevant to an issue on trial before a court or jury, without payment or tender of compensation other than the per diem and mileage allowed by law to witnesses. . . ." IC

**34-1-14-12.**

Should a physician be called to testify as an expert witness, he can expect to have his qualifications challenged by attorneys for the parties involved. A physician can qualify as an expert medical witness in several ways. He may have been the attending physician, he may practice in the specialty that is under discussion, or he may be Board Certified or Eligible in the field of medicine under discussion.

The physician called to testify as an expert should testify solely as to the medical facts of the case and should never attempt to make a legal conclusion or try to influence the court or jury. His testimony is intended to provide information with which a decision based on the facts of the case can be made.

See also: **CONFIDENTIAL PATIENT INFORMATION** and **MALPRACTICE (Medical Review Panel)**.

## EYE ENUCLEATION

When an anatomical gift is made of an eye, either a physician or a person certified by the State Board of Health as an eye enucleator may remove the eye(s) from the deceased donor. To be certified as an eye enucleator, a person must complete a course of training approved by the State Board of Health that was taught by one or more physicians. **IC 29-2-16-4(e).**

See also: **ANATOMICAL GIFTS.**

## FOREIGN MEDICAL GRADUATES

Please see **LICENSURE.**

## GENERIC DRUG SUBSTITUTION

A pharmacist may substitute a lower-priced generically equivalent drug product if 1) the customer agrees, 2) the pharmacist believes the generic substitute will not harm the customer, and 3) the prescribing practitioner has indicated on the prescription form that the pharmacist "May substitute." A "generically equivalent drug" product is one which contains the same quantity of active ingredients with identical physical-chemical standards, but does not have actual or potential bioequivalence problems. **IC 16-6-8.1-1.**

## GOOD SAMARITAN LAW

"Any person, who in good faith gratuitously renders emergency care at the scene of an accident or emergency care to the victim thereof, shall not be liable for any civil damages for any personal injury as a result of any act or omission by such person in rendering the emergency care or as a result of any act or failure to act to provide or arrange for further medical treatment or care for the injured person, except acts or omissions amounting to gross negligence or wilful or wanton misconduct." **IC 34-4-12-1.**

"No act or omission of any person who has successfully completed a course of training in cardiopulmonary resuscitation . . . while attempting to administer cardiopulmonary resuscitation, without pecuniary charge, to any person who is an apparent victim of acute cardiopulmonary insufficiency shall impose any liability upon the person so attempting the resuscitation; Provided, however, that this . . . shall not apply to acts or omissions amounting to gross negligence or wilful or wanton misconduct." **IC 34-4-12-2.**

## GROUND S FOR DISCIPLINE

A physician may be subject to discipline by the Medical Licensing Board of Indiana. IC 25-22.5-6-2.1 sets out the procedures for disciplinary sanctions as follows:

"(b) A practitioner shall conduct the practitioner's practice in accordance with the standards established by the board under IC 25-22.5-2-7 and is subject to the exercise of the disciplinary sanctions under subsection (e) if, after a hearing, the board finds:

- (1) A practitioner has:
  - (A) Employed or knowingly cooperated in fraud or material deception in order to obtain a license to practice;
  - (B) Engaged in fraud or material deception in the course of professional services or activities; or
  - (C) Has advertised services in a false or misleading manner;
- (2) A practitioner has been convicted of a crime which has a direct bearing on the practitioner's ability to continue to practice competently;
- (3) A practitioner has knowingly violated any rule adopted by the board under IC 25-22.5-2-7;
- (4) A practitioner has continued to practice although he has become unfit to practice due to:
  - (A) Professional incompetence;
  - (B) Failure to keep abreast of current professional theory or practice;
  - (C) Physical or mental disability; or
  - (D) Addiction or severe dependency upon alcohol or other drugs which endangers the public by impairing a practitioner's ability to practice safely;
- (5) A practitioner has engaged in a course of lewd or immoral conduct in connection with the delivery of services to patients;
- (6) A practitioner has allowed the practitioner's name or license to be issued under this chapter to be used in connection with any individual who renders services beyond the scope of that individual's training, experience, or competence;
- (7) A practitioner, except as otherwise provided by law, has knowingly prescribed, sold, or administered any drug classified as a narcotic, addicting, or dangerous drug to a habitue or addict; or
- (8) A practitioner has had disciplinary action taken against the practitioner or the practitioner's license to practice medicine or osteopathic medicine in any other state or jurisdiction on grounds similar to those under this section. A certified copy of the record of disciplinary action is conclusive evidence of the other jurisdiction's disciplinary action.

(c) The board may order a practitioner to submit to a reasonable physical or mental examination if his physical or mental capacity to practice safely is at issue in a disciplinary proceeding.

(d) Failure to comply with a board order to submit to a physical or mental examination shall render a practitioner liable to the summary revocation procedures under subsection (f).

(e) The board may impose any of the following sanctions, singly or in combination, when it finds that a practitioner is guilty of any offense under subsection (b):

- (1) Permanently revoke a practitioner's license.
- (2) Suspend a practitioner's license.
- (3) Censure a practitioner.
- (4) Issue a letter or reprimand.
- (5) Place a practitioner on probation status and require the practitioner to:
  - (A) Report regularly to the board upon the matters which are the basis of the probation;
  - (B) Limit practice to those areas prescribed by the board;
  - (C) Continue or renew professional education under a preceptor approved by the board until a satisfactory degree of skill has been attained in those areas which are the basis of the probation; or

(D) Perform or refrain from performing any acts the board considers appropriate to the public interest or to the rehabilitation or treatment of the practitioner.

The board may withdraw the probation if it finds that the deficiency which required disciplinary action has been remedied.

(f) The board may summarily suspend a practitioner's license for a period of ninety (90) days in advance of a final adjudication or during the appeals process if the board finds that a practitioner represents a clear and immediate danger to the public health and safety if the practitioner is allowed to continue to practice. The summary suspension may be renewed upon a hearing before the board, and each renewal may be for a period of ninety (90) days or less.

(g) The board may reinstate a license which has been suspended under this chapter if, after a hearing, the board is satisfied that the applicant is able to practice with reasonable skill and safety to patients. As a condition of reinstatement, the board may impose disciplinary or corrective measures authorized under this chapter.

(h) The board shall seek to achieve consistency in the application of the sanctions authorized in this section, and significant departures from prior decisions involving similar conduct shall be explained in the board's findings or orders."

See also **MEDICAL RECORDS** and **PHYSICIAN'S ASSISTANT**.

## IMMUNITY TO SUIT

Please see: **ADULT ABUSE**, **CHILD ABUSE**, **CONFIDENTIAL PATIENT INFORMATION**, **GOOD SAMARITAN LAW**, **LIVING WILL**, and **PEER REVIEW**.

## JURY DUTY

Physicians have no exemption from jury duty by virtue of their licenses. There are, however, some laws regarding jury service which affect physicians.

Under **IC 33-4-5.5-11(b)**, "A prospective juror is disqualified to serve on a jury if he . . . is incapable, by reasons of his physical or mental disability, of rendering satisfactory jury service. However, a person claiming this disqualification may be required to submit a physician's or authorized Christian Science practitioner's certificate as to the disability, and the certifying physician or practitioner is subject to inquiry by the court at its discretion."

A person who has served on a jury, may not serve on a jury in a court in the same county within one year of that service. **IC 33-1-1-1**; **IC 33-4-5-7(b)**. A person over the age of sixty-five (65) shall be excused from jury service. **IC 33-4-5-7(a)**.

## LAETRILE

"A hospital or other health care facility may not interfere with the physician-patient relationship by restricting or forbidding the use of amygdalin (laetrile) . . . when it is prescribed or administered by a physician holding an unlimited license for the practice of medicine in the state of Indiana and the patient has signed the 'written informed request' form that is described in **IC 16-8-8-5**, **IC 16-8-8-1**. A physician may not be subject to disciplinary action by the Medical Licensing Board of Indiana because of his use or prescription of laetrile. **IC 16-8-8-2**.

## LICENSURE

**IC 25-22.5-3-1** provides: "(a) The minimum requirements of all applicants for an unlimited license to practice medicine or osteopathic medicine in Indiana must include but are not limited to the requirements prescribed by this section.

(b) The applicant must not have a conviction for:

- (1) An act which would constitute a ground for disciplinary sanction under **IC 25-22.5-6-2.1(b)**; or
- (2) A crime that has a direct bearing on the applicant's ability to practice medicine competently.

(c) The applicant shall possess the degree of doctor of medicine or doctor of osteopathy or its equivalent from a medical school which was approved by the board as of the time the degree was conferred.



(d) The applicant shall have successfully passed the examination for licensure or shall have satisfied the requirements for licensure by endorsement as prescribed by the board.

(e) The applicant shall be physically and mentally capable of safely engaging in the practice of medicine or osteopathic medicine and shall submit to an examination if deemed necessary by the board to determine such capability.

(f) The applicant shall not have had disciplinary action taken against the applicant or the applicant's license by the board or by the licensing agency of any other state or jurisdiction by reasons of the applicant's inability to safely practice medicine or osteopathic medicine and those reasons are still valid in the opinion of the board.

(g) The applicant shall have submitted a complete transcript of his educational records, grades, and diploma from his medical school with an English translation thereof.

(h) The applicant shall, at the board's discretion, make a personal appearance before it.

(i) The applicant shall have completed one (1) year of postgraduate training in a hospital or institution located in the United States, its possessions, or Canada that meets standards set by the board. . . ."

There are special requirements for foreign medical graduates. IC 25-22.5-3-2 provides: "In addition to meeting all the requirements of section 1 (25-22.5-3-1) of this chapter, except section (1)(c), if an applicant for licensure who has been graduated from a medical school outside the United States, its possessions, or Canada submits evidence satisfactory to the board that prior to passing the examination the applicant has successfully completed a minimum of at least two (2) years of postgraduate training in a hospital or institution located in the United States or Canada which meets the standards approved by the nationally recognized medical or osteopathic accrediting bodies in the United States, for the purpose of graduate training which is approved by the board, then the applicant is entitled to receive an unlimited license to practice medicine or osteopathic medicine."

All licenses expire on June 30 of each even-numbered year. Licenses can be renewed by paying a biennial renewal fee of \$40. IC 25-22.5-7-1; 844 IAC 4-2-1.

A person who practices medicine without a license commits a Class C felony. A person who practices midwifery without a license or who acts as a physician's assistant without registering with the Medical Licensing Board commits a Class D felony. IC 25-22.5-8-2.

## LIVING WILL

"Competent adults have the right to control the decisions relating to their own medical care, including the decision to have medical or surgical means or procedures calculated to prolong their lives provided, withheld, or withdrawn." IC 16-8-11-1. "No health care provider is obligated to provide medical treatment to a patient who has refused medical treatment. . . . No civil or criminal liability is imposed upon a health care provider for failure to provide medical treatment to a patient who has refused treatment. . . ." IC 16-8-11-10.

A person who is at least eighteen years old and of sound mind may execute a "Living Will Declaration" which can be used as evidence of his consent to or refusal of life-prolonging medical procedures. To be valid, a Living Will must be a voluntary written declaration which is dated and signed by the person making the declaration and by two disinterested witnesses. IC 16-8-11-11.

A competent person can revoke a Living Will at any time by another signed and dated writing, by cancellation or destruction of the document, or by an oral expression of intent to revoke. "A revocation is effective when communicated to the attending physician" and "no civil or criminal liability is imposed upon a person for failure to act upon a revocation unless the person had actual knowledge of the revocation." IC 16-8-11-13.

Life-prolonging procedures are defined as "any medical procedure, treatment, or intervention that:

- (1) uses mechanical or other artificial means to sustain, restore or supplant a vital function, and
- (2) serves to prolong the dying process. 'Life-prolonging procedure' does not include the provision of appropriate nutrition and hydration, the administration of medication, or the performance of any medical procedure necessary to provide comfort or to alleviate pain." IC 16-8-11-4.

"A living will declaration . . .

- (1) does not obligate the physician to use, withhold, or withdraw life-prolonging procedures, but is presumptive evidence of the patient's desires concerning the use, withholding, or withdrawal of life-prolonging procedures . . . and
- (2) shall be given great weight by the physician in determining the intent of the patient now incompetent." **IC 16-8-11-11.**

A Living Will cannot be used unless the attending physician certifies in writing that the declarant is a "qualified patient." A person is a qualified patient if:

"(1) the attending physician has:

- (A) diagnosed the patient as having a terminal condition; and
- (B) determined that the patient's death will occur from the terminal condition whether or not life-prolonging procedures are used; and
- (2) the patient has executed a living will declaration . . . in accordance with this chapter and was of sound mind at the time of the execution." **IC 16-8-11-14.**

"An attending physician who refuses to use, withhold, or withdraw life-prolonging procedures from a qualified patient shall transfer the qualified patient to another physician who will honor the patient's living will declaration . . . unless:

- (1) the physician has reason to believe the declaration was not validly executed or there is evidence that the patient no longer intends the declaration to be enforced; and
- (2) the patient is presently unable to validate the declaration." **IC 16-8-11-14(e).**

If the attending physician believes the Living Will was not validly executed he shall attempt to determine what the patient's intent with regard to treatment would be by consulting:

- (1) a judicially appointed guardian (but this is not intended to require a guardian to be appointed);
- (2) a person designated by the patient in writing to make treatment decisions for the patient;
- (3) the patient's spouse;
- (4) the adult children of the patient;
- (5) the parents of the patient;
- (6) adult siblings of the patient; or
- (7) the patient's clergy. **IC 16-8-11-14(g).**

The intent of this new law is to allow the patient in the case of a terminal illness to control the extent of his medical treatment orally, or in the case of an incompetent patient, through a previously executed Living Will document, and without the necessity of court intervention.

There is a document similar to a Living Will called a "life-prolonging procedures will declaration." It is subject to the same execution requirements as a Living Will. This document would be executed by those patients who wish to give advance written consent to the performance of all medical procedures necessary to extend their lives. **IC 16-8-11-5.**

See also: **CONSENT TO TREAT.**

## **MALPRACTICE**

### **Limitation of Claims**

Indiana limits the recovery for each case of death or injury due to medical malpractice to \$500,000. **IC 16-9.5-2-2.** In addition, the maximum liability for a health care provider in a given case may not exceed \$100,000. The maximum annual liability for a health care provider, other than a hospital or a health maintenance organization may not exceed \$300,000. **IC 16-9.5-2-6.**

### **Patient's Compensation Fund**

The amount of an award in excess of a health care provider's personal limits will be paid by the Patient's Compensation Fund (PCF). The PCF is administered by the Indiana Department of Insurance, and is funded by a surcharge on all health care providers' malpractice insurance premiums. **IC 16-9.5-4-1.** As of this writing, the surcharge is 75% of the premium. After January 1, 1986, the Commissioner of the Department of Insurance may raise the surcharge to 100% of the premiums. The amount collected by the PCF shall not exceed \$15 million. **IC 16-9.5-4-1.1.**



## Medical Review Panel

Unless a claim is for less than \$15,000 or unless all parties agree, a claim may not be brought before a court until it has been reviewed by a medical review panel consisting of one lawyer, who shall serve as a non-voting chairman of the panel, and three health care providers, two of whom must practice in the same specialty as the provider who is accused of malpractice. **IC 16-9.5-9-3.**

The medical review panel is charged with making one of four possible determinations. First, it may determine that the defendant provider acted in accordance with accepted medical standards. Second, the panel may determine that the defendant provider did not act in accordance with accepted medical standards. The third determination that the panel could make is that there is a material issue of fact that cannot be resolved by the panel. Fourth, the panel may determine that the conduct complained of was not a factor of the resultant damages. **IC 16-9.5-9-7.**

A malpractice plaintiff may bring an action in court regardless of which determination is made by the PCF. Many cases, however, are settled before the claim is brought to court because of the weight carried by the PCF determination. A party will be more likely to settle if he receives an unfavorable decision from the PCF.

The members of the PCF receive nominal compensation for their services. The lawyer chairman will receive \$200 per day up to a maximum of \$1,000. The provider members are not reimbursed on a per day basis, but may be paid up to \$250. **IC 16-9.5-9-10.**

"Any report of the expert opinion reached by the medical review panel shall be admissible as evidence of any action subsequently brought by the claimant in a court of law, but such expert opinion shall not be conclusive and either party shall have the right to call, at his cost, any member of the medical review panel as a witness. If called, the witness shall be required to appear and testify. A panelist shall have absolute immunity from civil liability for all communications, findings, opinions, and conclusions made in the course and scope of duties prescribed by this article." **IC 16-9.5-9-9.**

## Payment of Claims; Structured Settlements

Once an award is made by a court, or a settlement is reached by the parties, payment can be made in a number of ways. It is important to note that no payment will be made from the PCF until the liability limits of the providers involved have been reached. **IC 16-9.5-2-2.**

"The health care provider whose annual aggregate has been exhausted shall have no right to object to or refuse permission to settle any such claim." **IC 16-9.5-2-7(a).** If a provider makes an advance payment on a claim, it will not be considered an admission of liability, nor is it admissible as evidence until a final judgment is made. **IC 16-9.5-2-3 and 4.**

There are different ways to determine whether the maximum recovery limits have been reached, because payments may be made by a lump sum, periodic payments, structured settlements, or a combination of these methods. **IC 16-9.5-4-4.** Payments made in a lump sum are subject to the normal \$100,000 and \$500,000 limitations. The periodic payment and structured settlement methods are valued in a special way to determine when the limits have been reached. To determine whether the provider's \$100,000 limit has been reached, the cost to the provider, or his insurance carrier, in present value terms, must be \$75,000 before the limit is reached. If there are two providers liable who agree to pay the award with periodic payments or a structured settlement, one provider's present value cost must be \$50,000 of the total \$75,000, before the providers' limits are reached. **IC 16-9.5-2-2.2.**

Periodic payments and structured settlements paid by the PCF are not valued in the same manner. The PCF, like the providers, must value periodic payments and structured settlements in terms of present value cost. Once valued, however, the PCF must have a present value cost of \$400,000 before its limit is reached, just as if it had made a lump sum payment. **IC 16-9.5-2-2.3.**

The provider and the PCF may agree to pay together with a structured settlement or by periodic payments. In this case the present value cost of the award to the PCF may not exceed 80% of the present value cost of the total award. **IC 16-9.5-2-2.4.**



## Statute of Limitations

The Medical Malpractice Act provides time limits before which a case must be brought. Most cases must be brought within two years of the date of injury. Patients who are injured before the age of six (6) must bring a claim before their eighth birthday. **IC 16-9.5-3-1.** When a claim is filed with the Department of Insurance to be heard by the medical review panel, the tolling of the limitation period is delayed until ninety (90) days after the panel has made a final determination. **IC 16-9.5-9-1.**

## Lawyer Fees

There is no limitation on lawyer fees with regard to the payments made by health care providers or their insurers. Lawyer fees, however, are limited to 15% of any recovery from the PCF. **IC 16-9.5-5-1.**

## Residual Insurance

Indiana will insure health care providers against malpractice liability under the Indiana Residual Malpractice Insurance Authority (IRMIA). IRMIA is designed to provide insurance to those providers who are unable to obtain coverage from private insurers. A provider who has been declined by at least two (2) insurers may apply for coverage under IRMIA. **IC 16-9.5-8-1 et seq.**

## Review of Provider Fitness

"The commissioner [of insurance] shall forward the name of every health care provider, except a hospital, against whom a settlement is made or judgment is rendered . . . to the appropriate board of professional registration and examination for review of fitness of the health care provider to practice his profession." **IC 16-9.5-6-2.** The reviewing board has the power to censure the provider, place the provider on probation, or suspend or revoke the provider's license. **IC 16-9.5-6-2.**

## MEDICAID

Indiana will reimburse the cost of medical care for persons who are blind, aged, disabled, dependent children of single parents, or mentally diseased, and who are unable to pay for their care. The rules and eligibility standards for this program are set jointly by Indiana and the federal government. This program is administered by the Department of Public Welfare in each county with funding supplied by the Indiana general fund and federal assistance.

Due to the length of the statutes and the importance of rules promulgated under those statutes, further explanation in this reference guide is impractical. For reference to Indiana's Medicaid laws, see generally **IC 12-1-7-1 et seq.** For reference to the rules adopted by the Indiana Department of Public Welfare, see generally **470 IAC 5-1-1 et seq.** and **470 IAC 9.1-1-1 et seq.**

## MEDICAL RECORDS

**IC 16-4-8-12** includes physicians in its definition of "provider" and states, "A provider shall maintain the original health records of a patient (or microfilm of those records) for at least eight (8) years." Failure to follow this law can be used by the Medical Licensing Board as grounds for discipline.

**IC 16-4-8-3** states that a patient, or in some circumstances, the proper representative of a patient, may request the health records of the patient from the provider. **IC 16-4-8-2(b)** provides, "upon a patient's written request, and upon reasonable notice, at its actual total costs, a provider shall furnish to the patient, or the patient's designee:

- (1) a copy of the patient's health record, used in assessing the patient's health condition; or
- (2) at the option of the patient, the pertinent portion of the patient's health record relating to a specific condition, as requested by the patient."

The Medical Licensing Board of Indiana has issued regulations dealing with the disposition of patient medical records when a physician discontinues his practice. **844 IAC 5-1-2(o)** provides:

- "(1) A practitioner, upon his/her retirement, or upon discontinuation of the practice of medicine or osteopathic medicine, or upon leaving or moving from a community,

shall not sell, convey or transfer for valuable consideration, remuneration or for anything of value, patient records of that practitioner to any other practitioner.

- (2) A practitioner, upon his/her retirement, or upon discontinuation of the practice of medicine or osteopathic medicine, or upon leaving or moving from a community, shall notify all of his/her active patients in writing, or by publication once a week for three (3) consecutive weeks in a newspaper of general circulation in that community, that he/she intends to discontinue his/her practice of medicine or osteopathic medicine in the community, and shall encourage his/her patients to seek the services of another practitioner, provided, however, that this subsection shall not apply to practitioners solely engaged in internship, residency, preceptorship, fellowship, teaching or other postgraduate medical education or training programs. The practitioner discontinuing his/her practice shall make reasonable arrangements with his/her active patients for the transfer of his/her records, or copies thereof, to the succeeding practitioner, or to a program conducted by a medical society or association approved by the medical licensing board.
- (3) As used herein, 'active patient' applies and refers to a person whom the practitioner has examined, treated, cared for, or otherwise consulted with, during the two (2) year period prior to retirement, discontinuation of the practice of medicine or osteopathic medicine, or leaving or moving from a community.
- (4) Nothing herein provided shall preclude, prohibit or prevent a practitioner from conveying or transferring the practitioner's patient records to another practitioner, holding an unlimited license to practice medicine or osteopathic medicine, who is assuming a practice, provided that written notice is furnished to all patients as hereinbefore specified."

See also: **CONFIDENTIAL PATIENT INFORMATION.**

## **MEDICARE**

The federal government will reimburse persons over the age of 65 for the care they receive in a hospital based on a prospective payment system. This program is available to all persons over the age of 65 and is not based on need. Those persons wishing to receive reimbursement for physician services must purchase additional insurance under the Medicare - Part B program. Each state administers the Medicare program locally for the federal government. Indiana has contracted with Blue Cross-Blue Shield of Indiana to administer the program in Indiana.

Due to the complexity of the Medicare program, further explanation of the statutes and rules in this reference guide is impractical. For questions regarding the Medicare program in Indiana please call 317-261-0400.

## **MIDWIVES**

Please see **NURSES.**

## **MINORS, TREATMENT OF**

Please see **ABORTION** and **CONSENT TO TREAT.**

## **NURSES**

### **Registered Nurse**

"'Registered nurse' means a person who holds a valid license . . . , and who bears primary responsibility and accountability for nursing practices based on specialized knowledge, judgment, and skill derived from the principles of biological, physical, and behavioral sciences." IC 25-23-1-1.1(a).

"'Registered nursing' means performance of services which include but are not limited to:

- (1) Assessing health conditions;
- (2) Deriving a nursing diagnosis;



- (3) Executing a nursing regimen through selection, performance, and management of nursing actions based on nursing diagnoses;
- (4) Advocating the provision of health care services through collaboration with or referral to other health professionals;
- (5) Executing regimens delegated by a physician with an unlimited license to practice medicine or osteopathic medicine, a licensed dentist, a licensed chiropractor, a licensed optometrist, or a licensed podiatrist;
- (6) Teaching, administering, supervising, delegating, and evaluating nursing practice;
- (7) Delegating tasks which assist in implementing the nursing, medical, or dental regimen; or
- (8) Performing acts which are approved by the [Indiana State] board [of Nursing] or by the board in collaboration with the medical licensing board of Indiana." IC 25-23-1-1.1(b).

### **Licensed Practical Nurse**

"'Licensed practical nurse' means a person who holds a valid license . . . who functions at the direction of:

- (1) A registered nurse;
- (2) A physician with an unlimited license to practice medicine or osteopathic medicine;
- (3) A licensed dentist;
- (4) A licensed chiropractor;
- (5) A licensed optometrist; or
- (6) A licensed podiatrist;

in the performance of activities commonly performed by practical nurses and requiring special knowledge or skill." IC 25-23-1-1.2.

"'Practical nursing' means the performance of services commonly performed by practical nurses, including:

- (1) Contributing to the assessment of the health status of individuals or groups;
- (2) Participating in the development and modification of the strategy of care;
- (3) Implementing the appropriate aspects of the strategy of care;
- (4) Maintaining safe and effective nursing care; and
- (5) Participating in the evaluation of responses to the strategy of care." IC 25-23-1-1.3.

### **Nurse Practitioner**

"'Nurse practitioner' means a registered nurse qualified to practice nursing in a specialty role based upon the additional knowledge and skill gained by the registered nurse through a formal organized program of study and clinical experience or equivalent as determined by the [Indiana State] board [of Nursing] which does not limit but extends or expands the function of the nurse in the area of primary health care, which care may be initiated by the client or provider in settings which shall include but not be limited to hospital outpatient clinics and health maintenance organizations." IC 25-23-1-1(b).

### **Nurse Midwife**

A nurse-midwife is a person who is a registered nurse and who has earned a diploma from a school of midwifery approved by the Medical Licensing Board of Indiana. Upon examination and approval of the Medical Licensing Board, the nurse-midwife is entitled to a limited license to practice midwifery in Indiana as defined by rules adopted by the board. The nurse-midwife is subject to disciplinary sanctions for the same reasons as are physicians. IC 25-22.5-5-5.

## **PARAMEDIC**

In addition to being trained as an Emergency Medical Technician, a Paramedic is trained in skills of "advanced life support" such as "defibrillation, endotracheal intubation, parenteral injection of appropriate medications, electrocardiogram interpretation, and emergency management of trauma and illness." 836 IAC 2-1-1. The Paramedic must be certified by the Indiana Emergency Medical Services Commission and must be affiliated with a certified paramedic organization and associated with a supervising hospital. IC 16-1-40-1(c).

See also: **ADVANCED EMERGENCY MEDICAL TECHNICIAN** and **EMERGENCY MEDICAL TECHNICIAN**.



## PEER REVIEW

“‘[P]eer review committee’ means a committee having the responsibility of evaluation of qualifications of professional health care providers, or of patient care rendered by a professional health care provider, or the merits of a complaint against a professional health care provider that includes a determination or recommendation concerning the complaint.” IC 34-4-12.6-1(c).

Communications to, and opinions and recommendations of, a peer review committee are to be held in strict confidence under IC 34-4-12.6-2(a). The provider under investigation, however, may have access to the record of the peer review committee and shall be given an opportunity to appear before the committee to present his case. IC 34-4-12.6-2(b). Persons serving on a peer review committee, or who provide information to a committee, are granted qualified immunity from civil liability for acting in good faith according to the procedures of the committee. IC 34-4-12.6-3.

## PHYSICIAN’S ASSISTANT

A physician’s assistant is a person who:

- “(1) Is an employee of a physician;
- (2) Is a graduate of a physician’s assistant training program approved by the [Medical Licensing] board [of Indiana];
- (3) Has successfully completed the national examination administered by the national commission on the certification of physician’s assistants; and
- (4) Has registered with the [Medical Licensing] board [of Indiana].” IC 25-22.5-1-1.1(i).

A physician’s assistant, as well as any other employee of a physician, may perform acts normally considered to be the practice of medicine if they are “performed under the direction and supervision of the employing physician or a physician of the employing group within whose area of practice the act, duty, or function falls. An employee [or physician’s assistant] may not make a diagnosis or prescribe treatment and must report the results of any examination of a patient conducted by him to the employing physician. . . . An employee [or physician’s assistant] may not administer medication without the specific order of the employing physician.” IC 25-22.5-1-2(r).

Regulations issued by the Medical Licensing Board of Indiana provide specific definitions for “supervision” and “direction” with regard to physician’s assistants. “‘Supervision’ means responsible vigilance and control by a licensed physician who assumes legal liability for the services rendered by the physician’s assistant. Except in cases of acute life threatening situations, supervision shall require the physical presence of the employing physician 50% or more of the working hours and easy communication at all times for consultation and direction.” 844 IAC 2-1-1(G). The rules also specify the need for the physician’s physical presence in order to supervise. “[T]he bulk of services performed by the physician’s assistant, specifically 50% or more, should be with the employing physician or physician designate on the premises. This phrase [“supervision and direction”] . . . does not allow for a physician’s assistant to practice away from the employing physician in a satellite office.” 844 IAC 2-1-1(J).

The employing physician must apply to the Medical Licensing Board of Indiana to obtain approval to employ a physician’s assistant. The physician must include in the application a description of the physician’s assistant’s qualifications, the background and specialty of the physician, and the way the physician’s assistant will be utilized including a list of privileges and delegated tasks. 844 IAC 2-1-2. “It shall be deemed to be the willful misconduct in the practice of medicine . . . to supervise more than one (1) physician assistant at any one time.” 844 IAC 2-1-8.

## REPORTING REQUIREMENTS

"It shall be the duty of all physicians to immediately report to the health officer designated by the [Indiana] State Board [of Health] all cases under his care of communicable diseases which are required to be reported by the rules of the state board." **IC 16-1-9-2.** The following diseases must be reported to the State Board of Health at 317-633-8414 or to the local health officer:

Acquired Immune Deficiency Syndrome (AIDS)	Meningitis, Other Bacterial
Amebiasis	Mumps
Animal Bites	Ophthalmia Neonatorum, Gonococcal
Anthrax	Pertussis
Botulism	Poliomyelitis
Brucellosis	Psittacosis
Campylobacter Enteritis	Rabies
Cholera	Reyes Syndrome
Diphtheria	Rocky Mountain Spotted Fever
Diarrhea of Newborn	Rubella (German Measles)
Encephalitis, Acute Infectious	Rubella Congenital Syndrome
Food Poisoning	Salmonellosis, other than Typhoid Fever
Giardiasis	Shigellosis
Hepatitis, Viral Non A, Non B	Smallpox
Hepatitis, Viral, Type A	Tetanus
Hepatitis, Viral, Type B	Toxic Shock Syndrome
Herpes, Neonatal	Trichinosis
Histoplasmosis	Tuberculosis
Legionellosis	Tularemia
Leprosy (Hansen's Disease)	Typhoid Fever
Malaria	Typhus, Endemic (flea-borne)
Measles (Rubeola)	Typhus, Epidemic (louse-borne)
Meningitis, Aseptic	Yellow Fever
Meningitis, Meningococcal and other Meningococcal Disease	

### **410 IAC 1-2-2.**

All cases of venereal disease, including chancroid, gonorrhea, granuloma inguinale, lympho-granuloma, and syphilis, must be reported directly to the Division of Communicable Disease Control, Indiana State Board of Health, Indianapolis, Indiana 46206 or 317-633-8414. **410 IAC 1-2-2.**

The following diseases must be reported to the local health officer, but need not identify the patient, age, sex, race, date of onset or name of physician unless specifically requested by the health officer:

Chickenpox	Rheumatic Fever
Conjunctivitis (Pink Eye)	Scabies
Impetigo	Streptococcal Infections (Scarlet Fever, Streptococcal Sore Throat, Erysipelas)
Influenza	Tinea Capitis (Ringworm of Scalp)
Pediculosis (Lice)	

### **410 IAC 1-2-2.**

There are several other incidents which must be reported. All cases of newly diagnosed blindness must be reported to the Indiana State Board of Health. **IC 16-4-5-1.** Each confirmed case of cancer must be reported to the cancer registry set up by the Indiana State Board of Health. This requirement may also be satisfied by reporting to an existing public or private cancer registry. **IC 16-4-9-4.** Wounds and injuries from firearms, knives, ice picks or other sharp pointed instruments, or powder burns must be reported to local law enforcement authorities. Failure to report these

injuries constitutes a Class A misdemeanor. **IC 35-47-7-1.** A physician must report to the State Board of Health all cases where he diagnoses, treats or cares for an individual having a handicap or a handicapping condition. **IC 16-4-6-3.** All cases of neglect, abuse or maltreatment of mentally ill persons under the care of the psychiatric hospital must be reported within twenty-four (24) hours to the head of the hospital. **IC 16-14-1-2.**

Infants must be examined for the following conditions and the test results must be reported to the State Board of Health:

Galactosemia	Inborn Errors of Metabolism
Hemoglobinopathies, including	that result in Mental
Sickle Cell Anemia	Retardation
Homocystinuria	Maple Syrup Urine Disease
Hypothyroidism	Phenylketonuria

#### **IC 16-8-6-1 and 16-8-6-5.**

Under the authority of **IC 25-22.5-2-7(8)**, the Medical Licensing Board promulgated a rule, **844 IAC 5-1-2(g)(1)**, which states: "A practitioner who has personal knowledge based upon a reasonable belief that another practitioner holding the same license has engaged in illegal, unlawful, incompetent or fraudulent conduct in the practice of medicine or osteopathic medicine shall promptly report such conduct to a peer review or similar body . . . having jurisdiction over the offending practitioner and the matter. This provision does not prohibit a practitioner from promptly reporting such conduct directly to the medical licensing board. Further, a practitioner who has personal knowledge of any person engaged in, or attempting to engage in, the unauthorized practice of medicine or osteopathic medicine shall promptly report such conduct to the medical licensing board."

For other reporting requirements, please see **ABORTION, ADULT ABUSE, BIRTH CERTIFICATES, CHILD ABUSE, CONFIDENTIAL PATIENT INFORMATION, DEATH REPORTS, LIVING WILL, SEX CRIMES, and VENEREAL DISEASE.**

### **REQUIRED IMMUNIZATIONS**

Unless a child's parents object on religious grounds, or unless a physician certifies that a particular immunization would be detrimental to a child's health, according to **IC 20-8.1-7-9.5**, all children residing in Indiana must be immunized against:

Diphtheria	Rubella
Measles	Tetanus
Mumps	Whooping Cough
Poliomyelitis	

No child may attend school in Indiana unless a written statement is furnished to the school certifying that the patient has obtained the required immunizations. The school may allow the child to attend school for up to twenty (20) days while the written statement is obtained. **IC 20-8.1-7-10.1.**

### **SEX CRIMES**

"Every hospital . . . which provides general medical and surgical hospital services shall provide emergency hospital service . . . to all alleged sex crime victims who apply for hospital emergency services in relation to injuries or trauma resulting from the alleged sex crime." **IC 16-10-1.5-1(a).** Rape, criminal deviate conduct, child molesting, and vicarious sexual gratification are considered sex crimes for purposes of this law. **IC 16-10-1.5-1(b).** These emergency services, which must be consented to by the victim and ordered by the attending physician, shall include "appropriate medical care, appropriate procedures for acquiring adequate evidence which may be used in a criminal proceeding against a person accused of the sex crime, records of the results of examination and tests made by the hospital, and appropriate counseling for the victim." **IC 16-10-1.5-4.**

The hospital may not charge the victim for these services. **IC 16-10-1.5-7.** The Violent Crime Compensation Division of the Industrial Board of Indiana will reimburse the hospital for these services, but will not reimburse if the crime was not reported to a law enforcement office within forty-eight (48) hours after its occurrence. **IC 16-10-1.5-6.**



## STATUTES OF LIMITATION

All claims for personal injury or actions regarding employment agreements not in writing, must be brought within two (2) years. Actions against sheriffs and public officials as well as actions to recover real property sold under a court order or during the administration of an estate must be brought within five (5) years. **IC 34-1-2-2.** The following actions must be brought within six (6) years: for relief against fraud; on accounts and contracts not in writing; for use, rents, and profits of real property; for injuries to property other than personal property; and for recovery of personal property. **IC 34-1-2-1.** Actions brought under a mortgage, written promise to pay money, or judgment of a court must be brought within ten (10) years. Actions under a contract other than for payment of money must be brought before twenty (20) years if they were entered into before September 1, 1982, otherwise an action must be brought within ten (10) years. **IC 34-1-2-2.**

See also **MALPRACTICE (Statute of Limitations).**

## UTILIZATION REVIEW

Please see **PEER REVIEW** and **DETERMINATION OF NEED.**

## VENEREAL DISEASE

All persons intending to be married must undergo a physical examination by a physician, which includes a serological test for the presence of syphilis. **IC 31-1-1-7(a).** "A physician who diagnoses a pregnancy of a woman shall take or cause to be taken a sample of blood at the time of diagnosis and shall submit the sample to an approved laboratory for a standard serological test for syphilis." **IC 16-1-11-12.** The person who is in attendance at a birth must examine the infant's eyes for infection and administer any appropriate treatment. **IC 16-1-11-5.** "It shall be unlawful for any person in professional attendance at a birth to fail to include an answer to the question on a birth certificate: 'were precautions taken against ophthalmia neonatorum?'" **IC 16-1-11-7.**

See also **CONSENT TO TREAT** and **REPORTING REQUIREMENTS.**

## WORKMEN'S COMPENSATION

Indiana's Workmen's Compensation law is found in **IC 22-3-1-1 et seq.** This law provides a comprehensive system of benefits to covered employees who are injured while employed. The following excerpts of the law apply to physicians:

"After an injury and prior to an adjudication of permanent impairment, the employer shall furnish or cause to be furnished, free of charge to the employee, an attending physician for the treatment of his injuries, and in addition thereto such surgical, hospital, and nursing services and supplies as the attending physician or the industrial board may deem necessary."

"If in an emergency or because of the employer's failure to provide such attending physician or such surgical, hospital or nurse's services and supplies or such treatment by spiritual means or prayer, as herein specified, or for other good reason, a physician other than that provided by the employer treats the injured employee during the period of such employee's temporary total disability, or necessary and proper surgical, hospital or nurse's services and supplies are procured within said period, the reasonable cost of such service and supplies shall, subject to the approval of the industrial board, be paid by the employer." **IC 22-3-3-4.**

"After an injury and during the period of claimed resulting disability or impairment, the employee, if so requested by his employer or ordered by the industrial board, shall submit himself to an examination at reasonable times and places by a duly qualified physician or surgeon designated and paid by the employer or by order of the industrial board. The employee shall have the right to have present at any such examination any duly qualified physician or surgeon provided and paid for by him. No fact communicated to, or otherwise learned by any physician or surgeon who may have attended or examined the employee, or who may have been present at any examination, shall be privileged, either in the hearings [before the industrial board], or in any action at law brought to recover damages against any employer who is subject to the compensation provisions [of the Workmen's Compensation program]." **IC 22-3-3-6.**

EXCERPTS FROM A SYMPOSIUM  
"THE TREATMENT OF SLEEP DISORDERS"<sup>8</sup>

... highly effective  
for both sleep induction and  
sleep maintenance

Sleep Laboratory Investigator  
Pennsylvania

... onset of action is  
rapid... provides sleep with  
no rebound effect to agitate the  
patient the following day

Psychiatrist  
California

... appears to have  
the best safety record of any  
of the benzodiazepines

Psychiatrist  
California

After 15 years, the experts still concur about the  
continuing value of Dalmane (flurazepam HCl/  
Roche). It provides sleep that satisfies patients...  
and the wide margin of safety that satisfies you.

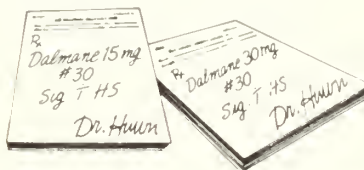
The recommended dose in elderly or debilitated  
patients is 15 mg. Contraindicated in pregnancy.

**DALMANE**<sup>®</sup>  
flurazepam HCl/Roche <sup>®</sup>  
sleep that satisfies

15-mg/30-mg  
capsules



References: 1. Kales J, et al. *Clin Pharmacol Ther* 12 691-697, Jul-Aug 1971. 2. Kales A, et al. *Clin Pharmacol Ther* 18 356-363, Sep 1975. 3. Kales A, et al. *Clin Pharmacol Ther* 19 576-583, May 1976. 4. Kales A, et al. *Clin Pharmacol Ther* 32 781-788, Dec 1982. 5. Fraist JD Jr, DeLucchi MR. *J Am Geriatr Soc* 27 541-546, Dec 1979. 6. Dement WC, et al. *Behav Med*, pp 25-31 Oct 1978. 7. Kales A, Kales JD. *J Clin Psychopharmacol* 3 140-150, Apr 1983. 8. Tennant FS, et al. Symposium on the Treatment of Sleep Disorders, Teleconference Oct 16, 1984. 9. Greenblatt DJ, Allen MD, Shader RI. *Clin Pharmacol Ther* 21 355-361 Mar 1977.



**DALMANE**<sup>®</sup>  
flurazepam HCl/Roche <sup>®</sup>

Before prescribing, please consult complete product information, a summary of which follows

**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening in patients with recurring insomnia or poor sleeping habits in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

**Contraindications:** Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patients to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Withdrawal symptoms rarely reported; abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase, and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

**Dosage:** Individualize for maximum beneficial effect. Adults: 30 mg usual dosage, 15 mg may suffice in some patients. Elderly or debilitated patients: 15 mg recommended initially until response is determined.

**Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl.



Roche Products Inc.  
Monro, Puerto Rico 00701



# #1 FOR SLEEP

After more than 15 years of use, it's #1 for sleep that satisfies. Patients are satisfied because they fall asleep fast and stay asleep till morning.<sup>1-8</sup> And *you're* satisfied by the exceptionally wide margin of safety.<sup>7-9</sup> As always, caution patients about driving or drinking alcohol.

Please see references and summary of product information on reverse side.

**DALMANE<sup>®</sup>**  
flurazepam HCl/Roche <sup>®</sup>  
**sleep that satisfies**





APRIL 1986

VOL. 79

NO. 4

# INDIANA MEDICINE

The Journal of the Indiana State Medical Association

THE FRANCIS A. COUNTWAY  
LIBRARY OF MEDICINE  
BOSTON, MA  
APR 23 1986

MA 02115

N.E. JOURN OF MED  
10 SHATTUCK STREET  
BOSTON

Inside: MEDICAL MANAGEMENT OF THE BURNED PATIENT



## **“...Your financial security specialists are on call”**

American Physicians Life believes a physician's financial security deserves specialized attention. That's why our products and services are designed with the doctor in mind. Our comprehensive portfolio of services, including life insurance, professional disability income coverage, qualified plans and tax-deferred annuities, is customized to meet your personal financial planning needs as well as those of your professional corporation.

Let American Physicians Life secure your financial planning program—that's our specialty!

**For more information contact:**  
Williams/Townsend Associates  
8900 Keystone Crossing, Suite 500  
Indianapolis, Indiana 46240  
(317) 844-3119

**Endorsed by the  
Indiana State Medical Association**



**AMERICAN PHYSICIANS LIFE**

Bates Drive, P.O. Box 281  
Pickerington, Ohio 43147  
Telephone (614) 864-3900

Toll-free in Ohio, 1-800-282-7515  
Toll-free outside Ohio, 1-800-742-1275



APR 23 1986

Vol. 79, No. 4  
APRIL 1986

# INDIANA MEDICINE

Devoted to the interests of the medical profession and public health in Indiana since 1908.

## SCIENTIFIC ARTICLES

- CME  
Mycosis Fungoides: Cutaneous  
T Cell Lymphoma ..... 330

## ADULT CRITICAL CARE

- Medical Management  
of the Burned Patient ..... 336

- Hazards of Slow K ..... 340

- Acute Wernicke's Encephalopathy  
in a Recently Recovered  
Alcoholic ..... 342

- Trends in Distribution  
of Colorectal Cancer ..... 350

- Management of the Incidentally  
Discovered Tuberculin Reactor ..... 354

## FEATURES

- Guest Editorial:  
Colon Cancer  
Undergoing Metamorphosis ..... 348

- Indiana Radiographers:  
Manpower Assessment ..... 358

- Exploding the  
Mayonnaise Myth ..... 360

- Physician-Patient  
Confidentiality: Legal  
Etiology and Ramifications ..... 365

- Drug Information:  
How Much Is Too Much? ..... 368

## DEPARTMENTS, MISCELLANEOUS

- Medical Museum Notes ..... 318  
What's New? ..... 320  
Future File ..... 322  
Cancer Corner ..... 324  
Public Health Notes ..... 329  
Drug Names ..... 370  
CME Quiz ..... 373  
Editorials ..... 374  
News Notes ..... 385  
CME Awards ..... 387  
New ISMA Members ..... 388  
ISMA's Leadership ..... 390  
Obituaries ..... 394

USPS 284-440  
ISSN 0746-8288

## OFFICE OF PUBLICATION:

3935 N. Meridian St.,  
Indianapolis, Ind. 46208  
Tel: (317) 925-7545

INDIANA MEDICINE (ISSN 0746-8288) is published monthly by the Indiana State Medical Association. Second-class postage paid at Indianapolis, Ind.

POSTMASTER: Send address changes to INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis, Ind. 46208.

Yearly subscription rates: \$20 domestic, \$22 Canada, \$23 foreign. Library rates: \$18 domestic, \$20 Canada, \$21 foreign. Senior ISMA members and full-time

medical students — \$10. Single copies not available. Subscriptions are renewable annually.

Views expressed do not necessarily reflect the opinions of the editors. No copyright is claimed, unless specifically indicated. Copyright rests solely with authors, who are responsible for statements made in their articles. Scientific and editorial contributions are accepted for exclusive publication, subject to editorial requirements. Publication deadline: 1st day of month preceding month of issue. Instructions for authors available upon request.

All issues since 1967 are available on microfilm from University Microfilms International, 300 N. Zeeb Rd., Ann Arbor, Mich. 48106. Indexed in Index Medicus and Hospital Literature Index.

Advertising rates and data available upon request.

## EDITOR

Frank B. Ramsey, M.D.

## MANAGING EDITOR

Martin T. Badger

## BUSINESS MANAGER

Kenneth Bush

## CIRCULATION MANAGER

Sheryl A. Mahoney

## EDITORIAL BOARD

Alvin J. Haley, M.D.

Alan T. Marty, M.D.

(Terms expire Dec. 31, 1986)

Thomas J. Conway, M.D.

I.E. Michael, M.D.

(Terms expire Dec. 31, 1987)

Elton Heaton, M.D.

Nancy C. A. Roeske, M.D.

(Terms expire Dec. 31, 1988)

Kevin A. Ault

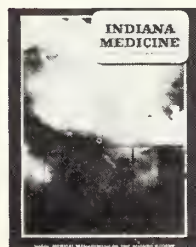
Richard E. Blackburn

Robert S. Flint II

(Terms expire Dec. 31, 1986)

## CONSULTING EDITORS

Steven C. Beering, M.D., Charles A. Bonsett, M.D., Rodney A. Mannion, M.D., Lall G. Montgomery, M.D., Paul S. Rhoads, M.D., W.D. Snively, M.D., I.W. Wilkens, M.D.



## ABOUT THE COVER

Being burned is probably the most feared of all traumatic events, says Dr. Stephen E. Olvey in this month's Critical Care Medicine feature, "Medical Management of the Burned Patient." On a positive note, he says the outlook for burn victims is better today than it was a decade ago.—PHOTO COURTESY OF STAN WISEHART, DIRECTOR, FIRE PREVENTION & INVESTIGATION, WASHINGTON TOWNSHIP FIRE DEPT.



# MEDICAL MUSEUM NOTES



CHARLES A. BONSETT, M.D., Indianapolis

**T**HE ORIGINAL construction of the James Whitcomb Riley Hospital was completed more than 60 years ago, and the original facade has since been obliterated through addition and enlargement. The current addition, now essentially completed, makes the hospital appear to be an entirely different structure.

The original structure still exists even though it isn't so obvious anymore. On this page are some of the original construction scenes from the early 1920s.



A corn field became the home of the James Whitcomb Riley Hospital, shown in its initial stage of construction.



Construction of the third floor is underway in this scene.



The front facade of Riley Hospital as it appeared in 1930.



The completed hospital was dedicated in 1924.

# It's not getting any easier to practice medicine.

*As a physician involved in today's growing medical community, you are faced with the increased involvement of the third party.*

Complex, changing rules and regulations far too often result in disputed billings, inconsistent third party reimbursement and slow payment.

Management of your office and accounts receivable can often require more of your time than can be reasonably allocated without neglecting your practice.

**Medical Accounts Group, Inc.** recognizes the needs of Indiana's medical community, and provides accounts receivable management to meet individual needs in an efficient and cost effective manner.

Highly qualified professionals assist you in developing tailored solutions to your office management problems. Expertise in a broad range of service products includes data processing, third party interface, patient accounts management, turnkey installation and support, and complete office management.

We invite you to call for further information on the **Medical Accounts Group** and allow us the opportunity to demonstrate our services to you.



## **MEDICAL ACCOUNTS GROUP, INC.**

1835 North Meridian • Indianapolis, Indiana 46202 • (317) 923-3046 • 1-800-468-1018 (in Indiana)

**Serving Indiana's Growing Medical Community**



# WHAT'S NEW?

Hewlett-Packard has introduced color flow mapping as an upgrade to its Model 77020AC/AR ultrasound imaging systems. Color flow mapping provides real-time imaging of cardiovascular blood flow and offers faster mapping of the extent of regurgitant lesions. These capabilities aid diagnosis and shorten exam time.

If you wanted to get somebody to write an authoritative book on *How to Live Longer and Feel Better* the best author should be older than 80 and famous for robust health. Anyway, there is a book with the above title written by 85-year-old Dr. Linus Pauling. It was released by Freeman on Feb. 15. Dr. Pauling discusses many items of behavior and conduct to enhance good health and prolong useful life, including "Don't Smoke" and "Take Your Vitamins." Two other gems are "sugar is a greater threat in heart disease than red meat" and "moderate drinkers are healthier than teetotalers." The book is billed as "advice that can add 20 to 30 years of feeling good."

LifeScan has two new personal blood glucose monitoring systems. The GLUCOSCAN™ 2000 and GLUCOSCAN™ 3000 Meters. Both Meters are pocket-portable and feature a simple 60-second procedure and a large digital readout. They utilize individually foil-wrapped reagent strips and long-life batteries and are covered by a three-year warranty.

The ECM Corporation announces a new catheter shield which eliminates the trauma of adhesive tape removal during daily dressings around Hickman, Hickman-Broviac and other catheter entry sites for bone marrow transplant and cancer patients undergoing intensive chemotherapy. The plastic shield has the advantage of raising the catheter pivot point to approximately 5/8 inch above the skin surface and thus lessens the pressure on the skin around the catheter tract. Either with gauze I.V. pads placed around the catheter or with the shield alone, it maintains an infection-free entry site.

Sportmed Technology announces a Fitness Appraisal Kit which allows one to measure six key indicators of fitness without need for supervision, in the home or out-of-doors. The kit includes three audio cassettes, lung volume measurement device, fat caliper, record-keeping sheets, questionnaire and complete manual. Anyone who takes fitness seriously and spends time and money to achieve fitness is now able to measure the progress and results.

Marion Laboratories announces Os-Cal® 500 Chewable Tablets. Each chewable tablet contains 500 mgs of elemental calcium. Two tablets a day will supply the U.S. Recommended Daily Allowance. The company's existing line of Os-Cal 500 Tablets and Os-Cal 250 Tablets will be continued.

Schering introduces Proventil® Syrup, the latest addition to their popular prescription bronchodilator line. The product has FDA approval for marketing. Proventil Syrup (albuterol sulfate) is indicated for the relief of bronchospasm in adults and children two years of age and older. Especially intended for treatment of reversible obstructive airway diseases.

Burroughs Wellcome has received FDA approval for marketing Wellbutrin® (bupropion hydrochloride), a new antidepressant especially recommended for those patients who do not respond to other antidepressants or who cannot tolerate other antidepressants. It is the first antidepressant of its kind and is classified as an aminoketone. It will be marketed as a 75 mg tablet.

News of what is new in the medical supply industry is composed of abstracts from news releases by book publishers and manufacturers of pharmaceuticals, clinical laboratory supplies, instruments and surgical appliances. Each item is published as news and does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

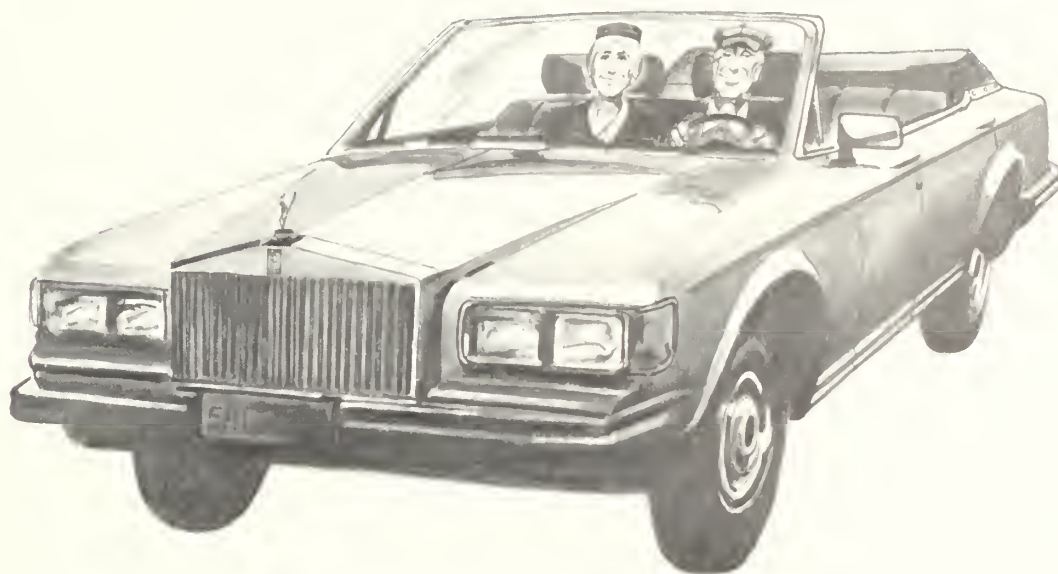
Miles Pharmaceuticals will market Adalat® (nifedipine) in the United States. Nifedipine was developed in Europe by Miles' parent company, Bayer AG. It has been available in the U.S. since 1982 through an agreement between Bayer and Pfizer by which Pfizer was designated as the initial marketer. The agreement also reserved the right for Bayer to co-market the drug in the U.S., a right which Bayer now exercises by assigning the marketing duties to Miles Pharmaceuticals. Nifedipine has been in use more than 10 years worldwide, and is recommended in the treatment of angina pectoris or ischemic heart disease.

Schering announces Diprolene Cream. It is designated as one of the highest potency prescription topical anti-inflammatory corticosteroid creams, approved for a wide range of moderate-to-severe dermatologic conditions, such as resistant, recalcitrant psoriasis, atopic dermatitis and other steroid-responsive dermatoses. Diprolene Cream 0.05 percent, betamethasone dipropionate, may be applied to the affected area once or twice a day.

Warner-Lambert has an antacid, Remegel®, which incorporates the efficacy of liquid antacid ingredients in a soft, chewy, good-tasting square with a nougat-like base. Especially recommended for patients who fail to take their prescribed liquid antacid because of chalky taste or gritty consistency.

Crown Marketing has an alarm device, about the size of a pack of cigarettes, which attaches easily to the rim of the auto steering wheel. When driving, a button is pushed and, if the driver gets drowsy and relaxes the button, a loud alarm sounds. The device operates on a 9-volt battery and creates a sound similar to a European police car. It is named "Dose-Alert." It is also valuable to carry when alone on the street at night. Any attempt at mugging may be frustrated by releasing the alarm.





## Not everyone over 60 needs our special services, but we still feel they deserve them

We don't have stereotyped ideas about older people all being needy or in frail health. We know that many of our customers who are over sixty are in great shape both physically and financially. Still, we offer everyone over sixty a 10% discount, and we'll help with Medicare and Medicaid forms whenever anyone needs us to. It's our way of thanking our older customers, because many of them have been our best customers for a long time.

For over 80 years, Peoples Drug Stores has served patients reliably and professionally. Today all the services we offer reflect our continuing commitment to help our customers as their health care needs change.

- An Extensive Inventory of Generic Drugs
- Braille Prescription Labeling Available
- Free Health Care Pamphlets
- Patient Guide to Prescription Drugs

*Every Peoples has an unlisted phone that's reserved only for doctors and answered only by pharmacists. Please call your local store to obtain the number.*









If you recognize Tad's father, you'll recognize the name of one of the largest life insurance companies in America.

Lincoln. It's a name you'll remember.

**B**enefits available to members of the Indiana State Medical Association and their employees through expanded ISMA group sponsored Lincoln National Life health insurance coverage:

#### **MEDICAL PLAN 1**

- 365 Days of Inpatient Hospital Care
- 100% payment semi-private or hospital ward room including the cost of blood
- 365 Days In-Hospital Medical Care
- Reasonable and Customary allowances for surgery, maternity, general anesthesia, medical visits, and radiation therapy
- \$500 Supplemental Accident
- Unlimited Major Medical Benefits

#### **MEDICAL PLAN 2**

- Comprehensive Major Medical expense protection—\$500 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 3**

- Comprehensive Major Medical expense protection—\$250 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 4**

- Low cost comprehensive Major Medical expense protection—\$2,000 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 5**

- Low cost plan that provides the same benefits as Medical Plan 3
- This plan includes several cost-containment features

The Lincoln National Life Insurance Company is most pleased to be underwriting the Group Medical and Dental Programs for the Indiana State Medical Association. Your benefit programs have been designed to provide the highest quality coverage and service at the lowest possible cost. A special claim paying unit has been established in our Indianapolis Group Benefits and Service Office to handle only the ISMA program. Should you have questions or problems, you may speak directly to your claim processor at 317-846-6211/800-692-6014. We look forward to serving your association and encourage your review of the programs and services being provided.

**F**or more information call or write:

James D. Townsend or Earl W. Williams  
Professional Account Representatives  
8900 Keystone Crossing, Suite 500  
Indianapolis, Indiana 46240  
(317) 846-7502 or (317) 844-3119  
1-800-428-7105 Toll Free Outside Indiana

Tom Martens  
Director, Health Insurance Administration  
Indiana State Medical Association  
3935 North Meridian Street  
Indianapolis, Indiana 46208  
(317) 926-4424  
1-800-382-1721

#### **NEW DENTAL PLAN**

- Reasonable and Customary allowances for necessary care and treatment for dental health
- \$1,500 Maximum Dental Benefit per person in a Calendar Year

#### **MEDICAL REIMBURSEMENT PLAN**

- Tax Deductible to the professional corporation
- Permissible to cover physicians and key employees only.



# CANCER CORNER

WILLIAM M. DUGAN, JR., M.D.  
Clinical Oncology Center, Methodist Hospital of Indiana

The American Cancer Society 1986 "I Can Cope" Classes meet on Tuesdays and Thursdays, 6:30-8:30 pm for 3 weeks. The next session dates are May 27-29, June 3-5, and June 10-12.

Classes are located at Northminster Presbyterian Church, 1660 Kessler Boulevard-E Drive, Indianapolis 46220.

"I Can Cope" goals are to give the patient and family an opportunity to acquire information about cancer, diagnostic procedures, treatment and self-care management. The importance of attitude is explored by learning effective ways of coping with cancer's impact on physical and emotional well-being. The program also acquaints the patient and family with resources available in their community. Classes are mainly educational, but offer opportunities to share experiences with other participants.

Program topics are: Coping with the Facts, Anatomy-What Is Happening to Me, Normal Living Adjustments, Coordinating Diet & Activity, Evaluating Your Feelings, and Resources for Living. This program is available at no charge by calling the American Cancer Society at 317-923-2225.

Specific Programs Capable of Meeting Special Needs are offered by the American Cancer Society. Information and guidance programs, staffed entirely with volunteers who have had personal experience with cancer, meet the practical and emotional needs of cancer patients and their families on a one-to-one basis.

Four programs available are: Families Facing Cancer, Reach to Recovery, Speak Up for Recovery, and Ostomy Rehabilitation.

To overcome cancer is a complex task which will not be accomplished overnight. But, with the help of committee men and women, we are surely and methodically chipping away at ignorance, fear and apathy until the time

comes when there is a clear, definitive course of prevention and eradication.

For further information about these programs, contact the American Cancer Society, Indiana Division, Inc., 4755 Kingsway Drive, Suite 100, Indianapolis 46205.

**Smoking Health Warnings:** On Oct. 12, 1985, four new and stronger health warnings began appearing in cigarette advertisements and on cigarette packages as part of the Comprehensive Smoking Education Act of 1984, signed by President Reagan a year ago. The four warnings will be rotated every three months on each brand of cigarettes. They are: 1) Surgeon General's Warning: Smoking Causes Lung Cancer, Heart Disease, Emphysema, and May Complicate Pregnancy; 2) Surgeon General's Warning: Smoking by Pregnant Women May Result in Fetal Injury, Premature Birth, and Low Birth Weight; 3) Surgeon General's Warning: Quitting Smoking Now Greatly Reduces Serious Risks to Your Health; and 4) Surgeon General's Warning: Cigarette Smoke Contains Carbon Monoxide.

Warnings appearing on billboards will be slightly different. Legislation for the new and stronger health warnings was supported by the American Cancer Society, American Heart Association, and the American Lung Association.

The American College of Radiology, Inter-Society Council for Radiation Oncology is sponsoring a conference on the Interaction of Radiation Therapy and Chemotherapy, Sept. 28-Oct. 1, 1986, at the Fort Magruder Inn, Williamsburg, Va.

This conference will explore the optimal approach to the use of combined modality therapy in the laboratory and the clinic. Also covered are: tumor models, in vitro and in vivo; normal

tissue models; mechanisms of resistance, particularly the development of cross-resistance between radiation and drugs; spatial cooperation (adjuvant therapy) in which radiation and drugs are used; combined modality approach for the control of the primary tumor; and late effects of treatment. The meeting will consist of introductory lectures and a Sunday evening reception followed by six half-day sessions, which include a keynote address, mini-slide presentation, poster viewing, and discussion. Call Ms. Suzanne Bohn, (215) 574-3181.

Bristol Laboratories has a desk reference, *Management of Infections in Patients with Cancer*, which is an informational service provided by Bristol Laboratories' Representative David Powell. This 72-page booklet is edited by Gerald P. Bodey, M.D., chief of Infectious Diseases, M.D. Anderson Hospital, Houston, Texas. Table of Contents articles listed are: Important Facts about Infections in Cancer Patients; Gyn Cancers: Common Infections and How to Treat Them; Cancer of the Lung: Infections to Anticipate and How Best to Manage Them; Preventing Infections: A Practical Approach for High Risk Patients; Preventing Infections in Immunocompromised Patients; Infections in Children with Cancer: Most Common Causes and How to Treat Them; Preventing Infections in Children: Guidelines for Physicians and Parents; Infectious Complications of Leukemia: Risk Factors; Common Organisms; Infectious Complications of Leukemia: Seven Principles of Treatment; Infections in Lymphoma Patients: Risk Factors, Diagnosis, Treatment; and Infection in the Cancer Patient: What Role for Immunization?. For your FREE copy of this desk reference, please contact the Clinical Oncology Center, (317) 929-8288.



YEARS

**Thank you for your loyal support**

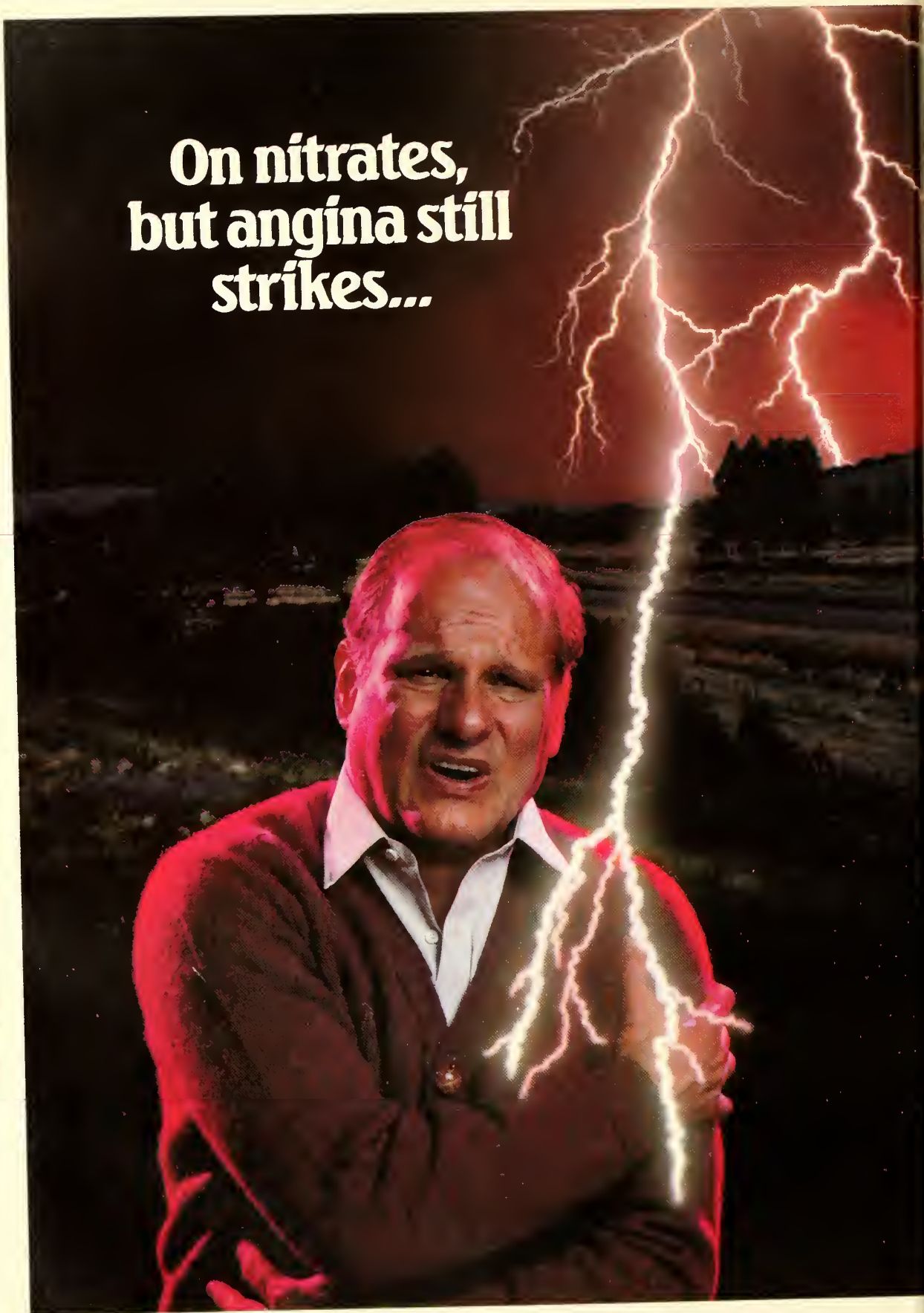
**DYAZIDE<sup>®</sup>**

**25 mg Hydrochlorothiazide/50 mg Triamterene/SKF**

**SK&F CO.**



**On nitrates,  
but angina still  
strikes...**





# After a nitrate, add ISOPTIN<sup>®</sup> (verapamil HCl/Knoll)

To protect your patients, as well as their quality of life,  
add Isoptin instead of a beta blocker.

**F**irst, Isoptin not only reduces myocardial oxygen demand by reducing peripheral resistance, but also increases coronary perfusion by preventing coronary vasospasm and dilating coronary arteries — both normal and stenotic. These are antianginal actions that no beta blocker can provide.

Second, Isoptin spares patients the beta-blocker side effects that may compromise the quality of life.

With Isoptin, fatigue, bradycardia and mental depression are rare. Unlike beta blockers, Isoptin can safely be given to patients with asthma, COPD, diabetes or peripheral vascular disease. Serious adverse reactions with Isoptin are rare at recommended doses; the single most common side effect is constipation (6.3%).

Cardiovascular contraindications to the use of Isoptin are similar to those of beta blockers: severe left ventricular dysfunction, hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no artificial pacemaker is present) and second- or third-degree AV block.

So, the next time a nitrate is not enough, add Isoptin... for more comprehensive antianginal protection without side effects which may cramp an active life style.



**ISOPTIN. Added  
antianginal protection  
without beta-blocker  
side effects.**

# ISOPTIN® (verapamil HCl/Knoll)

80 mg and 120 mg scored, film-coated tablets

**Contraindications:** Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure < 90 mm Hg) or cardiogenic shock, sick sinus syndrome (except in patients with a functioning artificial ventricular pacemaker), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction < 30% or moderate to severe symptoms of cardiac failure) and in patients with any degree of ventricular dysfunction if they are receiving a beta blocker. (See *Precautions*.) Patients with milder ventricular dysfunction should, if possible, be controlled with optimum doses of digitalis and/or diuretics before ISOPTIN is used. (Note interactions with digoxin under *Precautions*.) ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild and controlled by decrease in ISOPTIN dose). Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Such elevations may disappear even with continued treatment, however, four cases of hepatocellular injury by verapamil have been proven by rechallenge. Periodic monitoring of liver function is prudent during verapamil therapy. Patients with atrial flutter or fibrillation and an accessory AV pathway (e.g. W-P-W or L-G-L syndromes) may develop increased antegrade conduction across the aberrant pathway bypassing the AV node, producing a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion, which has been used safely and effectively after ISOPTIN. Because of verapamil's effect on AV conduction and the SA node, 1° AV block and transient bradycardia may occur. High grade block, however, has been infrequently observed. Marked 1° or progressive 2° or 3° AV block requires a dosage reduction or, rarely, discontinuation and institution of appropriate therapy depending upon the clinical situation. Patients with hypertrophic cardiomyopathy (IHSS) received verapamil in doses up to 720 mg/day. It must be appreciated that this group of patients had a serious disease with a high mortality rate and that most were refractory or intolerant to propranolol. A variety of serious adverse effects were seen in this group of patients including sinus bradycardia, 2° AV block, sinus arrest, pulmonary edema and/or severe hypotension. Most adverse effects responded well to dose reduction and only rarely was verapamil discontinued. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacologic effects. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, close surveillance of vital signs and clinical status should be carried out. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patients should be carefully monitored to avoid over- or under-digitalization. ISOPTIN may have an additive effect on lowering blood pressure in patients receiving oral antihypertensive agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Clinical experience with the concomitant use of ISOPTIN and short- and long-acting nitrates suggest beneficial interaction without undesirable drug interactions. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. **Pregnancy Category C:** There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia HR < 50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%), elevations of liver enzymes have been reported (See *Warnings*.) The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: ecchymosis, bruising, gynecomastia, psychotic symptoms, confusion, paresthesia, insomnia, somnolence, equilibrium disorder, blurred vision, syncope, muscle cramp, shakiness, claudication, hair loss, macules, spotty menstruation. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in round, scored, film-coated tablets containing either 80 mg or 120 mg of verapamil hydrochloride and embossed with "ISOPTIN 80" or "ISOPTIN 120" on one side and with "KNOLL" on the reverse side. Revised August, 1984 2385

 **KNOLL PHARMACEUTICAL COMPANY**  
30 NORTH JEFFERSON ROAD, WHIPPANY, NEW JERSEY 07981

2406

**EMPLOYEES  
APPRECIATE  
THE PAYROLL  
SAVINGS PLAN.**

**JUST ASK THE  
PEOPLE AT THE  
BOEING COMPANY.**

"My folks gave me a Bond for my birthday every year. Now I can do the same for my kids."

—Vaughn Hale



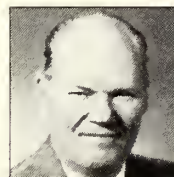
"It's certainly a painless way to save. The money comes directly out of my paycheck every two weeks."

—Florence Perry



"This is one way I can support my government and save at the same time."

—Douglas Scribner



U.S. Savings Bonds now offer higher variable interest rates and a guaranteed return. Your employees will appreciate that. They'll also appreciate your giving them the easiest, surest way to save.

For more information, write to: Steven R. Mead, Executive Director, U.S. Savings Bonds Division, Department of the Treasury, Washington, DC 20226.



**U.S. SAVINGS BONDS**  
Paying Better Than Ever

A public service of this publication.



WOODROW A. MYERS, JR., M.D.  
State Health Commissioner

New information from  
Office of the Commissioner  
Indiana State Board of Health  
1330 W. Michigan St.  
Indianapolis, Ind. 46206  
317-633-8100

## PUBLIC HEALTH NOTES

Once, it was considered a common disease, but Tuberculosis has experienced a reduced incidence with the advances of modern drugs. These drugs, the first of which were developed in the early 1950s, usually are successful in reducing outbreaks of TB before they are allowed to get out of control. In spite of these advances, TB remains a significant and stubborn public health problem, both in morbidity and mortality, in Indiana and the rest of the country.

The control of TB has been hampered by a number of factors. Unfortunately, the major factor is that many public and private sector health care providers do not consider TB a problem.

TB morbidity has been steadily declining for the past two decades. In Indiana, during 1984, there were 383 new cases of TB reported to the State Board of Health. The 1984 case rate of 7.0 cases per 100,000 population ranked Indiana 27th among the 50 states. In 1984, only six of the 92 Indiana counties reported 10 or more cases of TB. These six counties accounted for 52% (199 cases) of all newly reported 1984 TB cases.

Active transmission of TB still occurs, as is demonstrated by the fact that in 1984 there were 17 cases of TB reported in children under 15 years of age in Indiana. The potential for transmission is also demonstrated by the fact that in 1984, 341 (89%) of the new cases had pulmonary disease and 85% of these cases were possibly infectious as demonstrated by initial positive sputum smears. In addition, there were in 1984, 12% of the reported cases with confirmed drug resistant disease.

The Indiana TB Control Section staff has attempted to identify areas of concern, which are not necessarily unique to Indiana, and is striving to assist and work directly with local health departments and other health care professionals toward the goal of the control

of TB. One of the major areas of concern centers on TB in the elderly. The older population of Indiana continues to represent an important reservoir of disease on the basis of past infection, but substantial numbers of the elderly are susceptible to new infection as well.

In Indiana in 1984 there were 383 reported cases of TB of which 211 (55%) were in the 55-100 age group. As of December 1985, there were 46 cases of TB among residents in nursing homes. Of these cases, 17 had disease onset prior to 1985. The 29 TB cases with onset during 1985 currently represent 10% of the total statewide TB morbidity. Twelve of the 46 patients have died, three have completed their chemotherapy, and one has moved out of state. This leaves a total of 30 nursing home residents currently being treated for TB with at least two drugs. Much of the disease among nursing home residents is a result of transmission which occurred in the nursing home and not due to reactivation of a previous infection.

In addition to the verified and reported cases, there are 26 nursing home residents who are considered TB suspects (class 5) where the final diagnosis is pending. The final diagnosis will be determined and verified upon completion of all diagnostic tests. During 1984, there were also 575 reactors without disease (class 2) reported from nursing homes.

Another major area of concern in Indiana is TB reactivation. Indiana's percent of diagnosed cases with TB again is 19.1. This percentage is three times greater than the national average.

Another major area of concern are TB surveillance programs in nursing homes. In 1984, when health facility regulations were revised to require TB skin testing of nursing home employees and residents, the Indiana State Board of Health took steps to ensure adequate training for those who would administer and read the Mantoux tests. The revised health facility regulations

state that those administering and reading TB skin tests must be certified by completing an approved one-day training course. This one-day training program, designed and implemented by the staff of the TB Control Section, covers the basics of TB transmission, pathogenesis and control in addition to basic skin testing techniques. An instructor program has also been developed to train qualified registered nurses to teach the course in their respective areas of the state. Since the program began in April 1984, approximately 5,200 RNs and LPNs have attended the course. Representatives from various fields of nursing, including nursing homes, hospitals, community agencies, local health departments, private physicians' offices, schools, industrial sites, and faculty from schools of nursing, have attended and completed the course. Because of these activities relating to the course, Indiana has received national recognition from the Centers for Disease Control in Atlanta. The TB Control Section has received several inquiries from other state health departments relating to the TB update/certification course. One of the major additional benefits of this program has been the vastly improved communication between a wide range of health care professionals throughout the state who are usually the first to see, diagnose and report cases of TB.

On a national level, the TB Control Division of the Centers for Disease Control has outlined a three-step plan for the elimination of TB which includes: (1) intensification of the application of existing technologies for TB control; (2) the development of new control methods; and (3) the rapid transfer of these new methods into program settings. Indiana is currently ready to fully support the CDC in their efforts as they further develop the plan and begin to implement it.

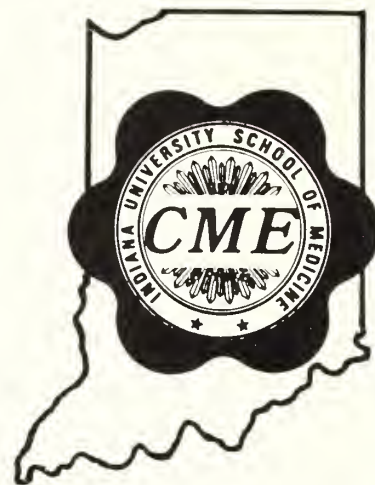
For further information, please contact the Indiana State Board of Health at 317/633-8433.



INDIANA MEDICINE offers its readers a Continuing Medical Education series of articles prepared by the faculty of the Indiana University School of Medicine. The program is coordinated and supported by a grant from the school's Division of Continuing Medical Education.

As an organization accredited for continuing medical education, the Indiana University School of Medicine certifies that this CME activity meets the criteria for one credit hour in Category 1 for the Physician's Recognition Award of the American Medical Association, provided it is used and completed as designated.

To obtain Category 1 credit for this month's article, complete the quiz on page 373.



## Mycosis Fungoides: Cutaneous T Cell Lymphoma

---

WARREN W. EPINETTE, M.D.  
Indianapolis

---

**M**YCOSIS FUNGOIDES, a chronic T cell lymphoma of the skin, was first characterized remarkably well by the father of French dermatology, Jean Marc Alibert, in his treatise, *Description des Maladies de la Peau*, which was published in 1806.<sup>1</sup> Alibert recognized that mycosis fungoides, which he so named because of the fungus or mushroom-like tumors which characterize the late stages of the disease, may last for many years and that early lesions were papular/nodular in character. Alibert appropriately likened the late tumor stage of mycosis fungoides to the destructive lesions of tertiary syphilis, a disease with which his age was intimately familiar.

Mycosis fungoides is best defined as an uncommon, ultimately fatal neoplasm of the lymphoreticular system which usually first appears in the skin and which may be limited to the skin

for many years before involvement of lymph nodes or other systemic dissemination becomes evident. In 1974, Edelson, *et al.* clearly showed that mycosis fungoides is a neoplasm of T lymphocytes.<sup>2</sup>

For reasons which are unclear, the incidence of mycosis fungoides derived from cancer registry statistics appears to be low. In the 25-year period from 1950 to 1975, registries reported the incidence of the disease at 1 per 200,000, and 1,948 deaths were attributed to it in the United States during that period.<sup>3</sup> In a subsequent study, however, a higher incidence approximately equal to that of Hodgkin's disease was found.<sup>4</sup> The mycosis fungoides cooperative study group formed in the early 1970s has found that approximately 64% of the cases have occurred in males. In one family both father and daughter developed mycosis fungoides at an interval of 24

---

From the Dept. of Dermatology, Indiana University School of Medicine, Indianapolis.

Correspondence: Dept. of Dermatology, Indiana University School of Medicine, 1100 W. Michigan St., RG 524, Indianapolis, Ind. 46223.

years;<sup>5</sup> other reports of familial cases are rare. Mycosis fungoides is typically a disease which is first diagnosed in the fourth and fifth decades. We have observed several patients, however, who have had documented disease since late adolescence.

Edelson has reviewed three studies which have suggested a relationship between environmental and industrial exposure to potential toxic materials and the development of mycosis fungoides and related T cell lymphomas.<sup>3</sup> The disease has been linked to exposures ranging from petrochemicals, metals, solvents, pesticides, air pollutants, detergents and disinfectants; all of the data linking lymphoma with toxic exposure are retrospective.

#### Clinical Features

Mycosis fungoides is a triphasic disease. The clinical presentation begins with a first stage characterized by a variable but extended period of chronic pruritus or dermatitis which is ill-defined and usually minimally responsive to therapy. This early eczematous phase of mycosis fungoides may persist for up to 15-20 years before progression to the second, plaque stage of the disease. Although the diagnosis may be suspected early on, it is usually not made definitively until biopsies of the plaque-like lesions are examined. Once the patient has developed plaques, progression of the disease accelerates and within a few months to years tumors develop which usually indicate a likelihood of dissemination and death within a few months (third stage disease). The early lesions of mycosis fungoides are nonspecific; generalized erythroderma *per se*, though occasionally indicating early mycosis fungoides, does not commonly eventuate in classical disease. Hasan and Jansen, in a follow-up study of 50 patients with erythroderma, noted only two who ultimately developed mycosis fungoides.<sup>6</sup>

The long dermatitic ("premycotic") first phase of this disease has led to



FIGURE 1: Polycyclic psoriasiform lesions of early plaque-stage mycosis fungoides.

theory and speculation about the initial etiologic events. The neoplastic vs. non-neoplastic origin of mycosis fungoides is still debated. Chronic inflammation and/or antigenic stimulation may lead to the development of a proliferation of an abnormal clone of helper T cells; there is hard evidence at this time that the neoplastic cells characterizing the infiltrates of mycosis fungoides in a given patient are monoclonal, i.e., they likely develop at a single site.<sup>3,7</sup> The mechanism by which the abnormal clone of cells arises is not clear, although it has been suggested by MacKie and others that it arises from an abnormal Langerhans-T cell interaction. Indeed, MacKie further suggests that the abnormal interaction may be stimulated by a C-type retrovirus and that this lymphoreticular malignancy may be the result of a chronically

stimulated but functionally ineffective T-cell response.<sup>8</sup> More recently, lymphoreticular malignancy has been linked to possible HTLV virus infection.

Clinicians caring for patients with poorly responsive chronic dermatitic eruptions should be alert to the development of areas of thickening particularly if the areas have an annular configuration; commonly, the early plaques of histologically characteristic mycosis fungoides are polycyclic and polymorphic (See Figure 1). Little else is characteristic clinically until the late stages are well developed. Areas of poikiloderma, characterized by thinning, variable pigmentary changes and slight scaling as well as a red-brown hue to the early plaque-like areas are not uncommon. Occasionally, early plaque-like lesions will be strikingly psoriasiform and the plaque-type

parapsoriasis is appropriately applied to them. Thus, what appears to be psoriasis, clinically appearing in areas of chronic dermatitis, should be highly suspect as early mycosis fungoides.

The tumors of late mycosis fungoides ulcerate and become secondarily infected early. These foul-odored excrescences have been appropriately likened to rotting fruit (See Figure 2).

A number of precursors of mycosis fungoides and variants of the classical presentation deserve review:

It was recognized by early French dermatologists that patients may develop plaque-like and tumor lesions without a prolonged dermatitic preamble. They termed this mycosis fungoides d'emblee; many of these patients are now classified as other types of lymphoma. It is not rare, however, for a shortened eczematous phase to be noted in mycosis fungoides.

In black or deeply pigmented Caucasian skin mycosis fungoides may present initially as areas of hypopigmentation.<sup>9,10</sup> In our experience, patients presenting with what appear to be widespread pityriasis alba-like lesions should have biopsies taken to rule out mycosis fungoides and sarcoidosis, which also rarely may present as hypopigmented macules.

Localized, non-progressive lesions, which are otherwise typical of mycosis fungoides, have been recognized for many years. Within recent years the exact nosology of this phenomenon, variously known as Woringer-Kolopp disease or localized pagetoid reticulosis, has been hotly disputed.<sup>11,12</sup> Characteristic histologic findings and well documented reports of progression of localized to widespread disease would favor a conclusion that this relatively rare condition does represent localized mycosis fungoides.

Similarly, lymphomatoid papulosis, a disorder described by Macaulay,<sup>13</sup> can eventuate in mycosis fungoides T cell lymphoma. Lymphomatoid papulosis is characterized by variably sized nodular lesions which appear rapidly, ulcerate over two to several weeks and resolve

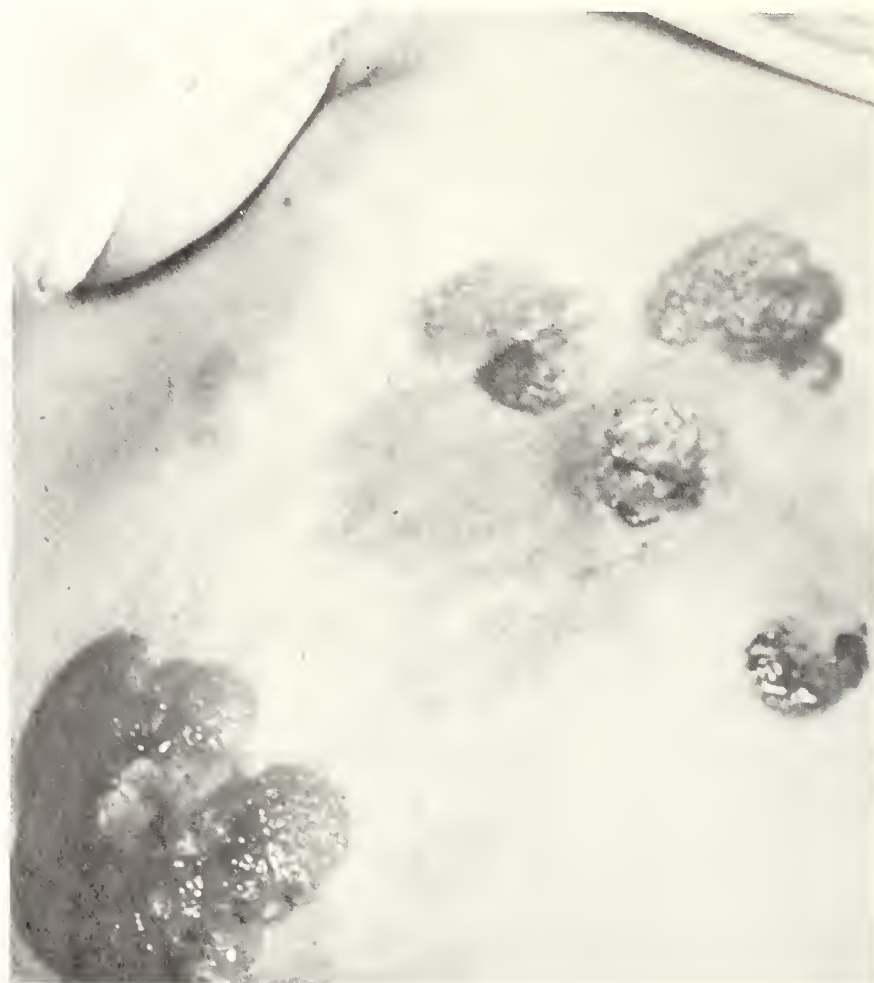


FIGURE 2: Ulcerated tumors of late mycosis fungoides.

spontaneously. Histologically, lymphomatoid papulosis has a cellular infiltrate suggestive of mycosis fungoides.<sup>13</sup> Madison, *et al.* reported a case of lymphomatoid papulosis of 19 years duration which evolved into nodal T cell disease for five years and subsequently terminated in aggressive tumor stage mycosis fungoides. These authors reported that a review of the literature indicated 10-20% of cases of lymphomatoid papulosis progress to mycosis fungoides.<sup>14</sup> In their review of 31 patients with lymphomatoid papulosis evaluated at the Mayo Clinic, Sanchez, *et al.* found that two patients ultimately developed mycosis fungoides, one Hodgkin's disease, and three

patients developed other lymphomas.<sup>15</sup>

Actinic reticuloid is a photosensitive dermatitis predominantly arising in light exposed areas of the skin which demonstrates histology suggestive of mycosis fungoides. It is currently believed that this condition represents chronic photoantigenic stimulation, and can evolve into classical mycosis fungoides.<sup>16</sup>

Some patients with mycosis fungoides develop mucinous changes within pilosebaceous structures in affected areas. Pinkus first described this condition, alopecia mucinosa, and reviewed it in 1983. In his review of 156 published cases of alopecia mucinosa, 19 had an associated lymphoma.<sup>17</sup>



The relationship of mycosis fungoides to Sezary syndrome, a disease also recognized to be a chronic T cell lymphoma, is not totally clear. The arguments on each side center on the histologic features and characterization of the abnormal cells seen in the two diseases. Sezary syndrome is characterized by a widespread, usually erythrodermic cutaneous eruption and an absolute peripheral lymphocytosis. A large number of atypical "Sezary" cells are present in the circulating blood. Proponents of the identity of the two diseases feel that Sezary syndrome represents mycosis cells which have "spilled over" from the skin into the regional nodes and blood.<sup>18</sup> This debate has not been resolved at this writing.

Except for the finding of occasional abnormal cells in the circulating blood and in lymph nodes, there are remarkably few systemic findings in mycosis fungoides until late in the course of the disease, at which time infiltration of any organ system is possible. In one post-autopsy review of 173 patients in the literature, for example, 40 patients were noted to have had GI lesions, some with perforation and peritonitis.<sup>19</sup> Disseminated herpes simplex<sup>20</sup> and herpes zoster<sup>21</sup> are common complications of mycosis fungoides, with an incidence which parallels the frequency of occurrence noted in Hodgkin's disease. Evolution of mycosis fungoides into other lymphomas or leukemia, though once thought to be common, is unusual, but does occur.

The cause of death in patients with this disorder is usually from bacterial, viral, fungal or yeast infections. The chronicity of the disorder is such that many patients die of intercurrent, unrelated disease.

### Histopathology

Histopathologists have widely divergent opinions as to the ease with which an early diagnosis of mycosis fungoides may be made. Ackerman<sup>22</sup> feels that an early histologic diagnosis is possible, whereas others are reluctant to diagnose lymphoma with cer-

tainty without clear-cut clusters of abnormal cells within the epidermis (so-called Pautrier microabscesses). The light microscopic features of mycosis fungoides also include a polymorphic infiltrate consisting of large mononuclear cells with convoluted nuclei (the abnormal T cells), other lymphoreticular cells, polymorphonuclear leukocytes, eosinophils and plasma cells. The infiltrate commonly extends deeply within the dermis, particularly in plaque- and tumor-stage lesions. Collections of abnormal cells within the epidermis are characteristic, diagnostic, and typical of plaque- and tumor-stage lesions. Recognizing that early diagnosis of the disease in its eczematous stage is of high priority, many investigators have attempted to refine early diagnosis, particularly by techniques of DNA analysis and quantification of nuclear contour. The nuclear contour index (NCI) is a recent attempt at such quantification.<sup>23</sup> It is of great clinical significance that the degree of epidermotropism, that is, the degree of invasion of the epidermis by tumor cells in a patient with known mycosis fungoides, correlates directly with a better prognosis.<sup>3,24</sup>

The characterization of the abnormal cells of mycosis fungoides infiltrates as helper T cells has been made by a number of investigators who have found OKT4 positivity.<sup>25</sup> In addition, mycosis fungoides cells have been shown to be OKT6 and OKT10 positive, indicating common antigens with immature thymocytes and Langerhans cells.<sup>26,27</sup> Unfortunately, monoclonal antibody staining is not useful diagnostically since many inflammatory skin disorders, including allergic contact dermatitis and lichen planus, also show predominantly helper T-cell infiltrates.

Similarly, the electron microscopic identification of an inflammatory cell with a hyperconvoluted nucleus by Lutzner<sup>28</sup> was originally thought to be specific for Sezary syndrome. It is now known to be a nonspecific ultrastructural identifying feature of stimulated

T cells.

### Laboratory Examinations

Few consistent laboratory abnormalities are noted in patients with mycosis fungoides until dissemination occurs and/or unless Sezary cells are present. Our evaluation of patients suspected for having mycosis fungoides includes a complete history and physical examination, and a CBC with differential with a special request to the laboratory to search for Sezary type cells. Multiple skin biopsies are commonly required to establish the diagnosis. Automated serum chemistry evaluations, though of interest, are not usually helpful in establishing a diagnosis or indicating early systemic involvement.

A chest x-ray is obtained, as is computed tomography of the abdomen. In patients with biopsy-proven mycosis fungoides, bone marrow examination is done to rule out Sezary cell infiltration. Further evaluation of specific organ systems is done as dictated by history, physical examination or screening studies. A biopsy of a representative lymph node, if enlarged, is taken for staging, although staging laparotomy is not usually recommended. Most patients with widespread eczematous stage mycosis fungoides show only the reactive changes of dermopathic lymphadenopathy on histologic examination, and neoplastic infiltration of regional nodes is a late event.

### Treatment

As Thiers has emphasized,<sup>29</sup> the treatment of mycosis fungoides depends in great measure on one's view of the natural history of the disease. Those who hold that this lymphoma exists as such from its inception in early eczematous disease are more aggressive in their therapeutic approach than those who view mycosis fungoides as evolving from a chronic inflammatory process. The final resolution of the argument of early aggressive therapy vs. early conservative therapy will await definitive elucidation of the

pathophysiology of the disease. At this time it is fair to say that we have no concrete evidence that treatment of mycosis fungoides at any stage alters the course of the disease. That is not to minimize the effect of therapy, however. Severe, widespread, plaque/tumor-stage disease can be virtually totally suppressed by appropriate palliative therapy.

It has long been known that sunlight is beneficial to patients with mycosis fungoides and Milstein, *et al.* reported in 1982 that home ultraviolet phototherapy of histologically verified early mycosis fungoides resulted in a 61% remission rate.<sup>30</sup> Similarly, Gilerest, *et al.* began the use of psoralen and UVA therapy (PUVA) in 1974, and several studies have confirmed their positive results.<sup>31-34</sup>

For disease which is widespread and extends more deeply into the skin than either UVA or UVB penetrate efficiently, two treatment modalities are in common use. At Indiana University the treatment of choice for the past 15 years has been total body electron beam utilizing 2.4-4 MEV electrons on several schedules. Most centers give 2800-3500 rads through several ports over a period of up to 10 weeks.<sup>35</sup> Electron beam therapy was felt by Fuks, *et al.* at Stanford to be potentially curative; they reported sustained remissions in approximately half of their patients with limited skin disease, one-quarter of those with generalized plaques, but no sustained remissions in any patients with tumor stage disease.<sup>36</sup> Electron beam courses can be repeated to a lifetime dose of 10,000 rads total body. Successive courses appear to maintain effectiveness.

Topical nitrogen mustard applied either in aqueous or ointment vehicles has been shown to be equally as effective as electron beam in the treatment of early mycosis fungoides,<sup>35</sup> and this has been our experience. Contact sensitization has been reported to occur in 67.1% of the patients;<sup>37</sup> in our hands patients who become sensitized to topical mustard can be treated success-

fully with logarithmically smaller doses topically following clearing of their contact dermatitis. Topical nitrogen mustard does expose the patient to a risk of a second cutaneous malignancy, and chronic use of topical mustard requires vigilance on the part of the clinician to detect the early squamous cell carcinoma, basal cell carcinoma and keratoacanthomas which can be expected.<sup>38</sup>

Experimentally, other topical nitrosoureas, particularly BCNU, have been as effective as topical nitrogen mustard but have not enjoyed widespread use.<sup>39</sup>

Patients with mycosis fungoides have been given 13-cis retinoic acid<sup>40</sup> and etretinate,<sup>41</sup> an aromatic retinoid not yet available in the United States, with promising results. It would appear, however, that the retinoids, if useful clinically, will be utilized as adjunctive therapy.<sup>37</sup>

Judicious application of the therapeutic modalities at hand can provide the patient with mycosis fungoides in whom the diagnosis is made early with many years of productive life free of significant disease-related disability. The possible role of early, aggressive, systemic therapy given with total body irradiation or topical nitrosoureas is under investigation in several centers. Although this aggressive combination therapy may prove useful, it has been our experience that the addition of systemic chemotherapeutic agents, particularly systemic corticosteroids, to the treatment regimen of patients with this lymphoma rapidly tilts the balance in favor of the disease and progression of the disease is accelerated as a result. There is, moreover, ample evidence that disease-free remissions for up to 10 years are possible both with total body electron beam therapy and with topical nitrogen mustard.

### Conclusions

This review has summarized the clinical features of classical triphasic mycosis fungoides, as well as several precursors and variants of the disease. The difficulty in early diagnosis is em-

phasized even though a high index of suspicion may exist from early in the course of the disease. Excellent palliative treatment of early mycosis fungoides may be accomplished with UVB or PUVA; later, total body electron beam therapy or topical nitrogen mustard remain the proven mainstays of therapy.

### REFERENCES

1. Alibert JM, quoted in Shelley WB, Crissey JT, *Classics in Clinical Dermatology*, Charles C Thomas, Springfield, 1953, pp. 38-40.
2. Edelson RL, Kirkpatrick CH, Shevach EM, *et al.*: Preferential cutaneous infiltration by neoplastic thymus-derived lymphocytes. *Ann Intern Med*, 80:685, 1974.
3. Edelson RL: Cutaneous T cell lymphoma: Mycosis fungoides, Sezary syndrome, and other variants. *J Am Acad Dermatol*, 2:89, 1980.
4. Edelson RL: Cutaneous T cell lymphoma, in Moschella S (ed): *Dermatology Update*, Elsevier Press, New York, 1979, pp. 195-207.
5. Shelley WB: Familial mycosis fungoides revisited. *Arch Dermatol*, 116:1177, 1980.
6. Hasan T, Jansen CT: Erythroderma: A follow-up of fifty cases. *J Am Acad Dermatol*, 8:836, 1983.
7. Nowell PC, Finan JB, Vonderheid EC: Clonal characteristics of cutaneous T cell lymphomas: Cytogenetic evidence from blood, lymph nodes, and skin. *J Invest Dermatol*, 78:69, 1982.
8. MacKie RM: Initial event in mycosis fungoides of the skin is a viral infection of epidermal Langerhans cells. *Lancet*, 2:283, 1981.
9. Breathnach SM, McKee PH, Smith NP: Hypopigmented mycosis fungoides: Report of five cases with ultrastructural observations. *Br J Dermatol*, 106:643, 1982.
10. Zackheim HS, Epstein Eh Jr, Grekin DA, *et al.*: Mycosis fungoides presenting as areas of hypopigmentation: a report of three cases. *J Am Acad Dermatol*, 6:340, 1982.
11. Deneau DG, Wood GS, Beckstead J, *et al.*: Woringer-Kolopp disease (pagetoid reticulosis). Four cases with histopathologic, ultrastructural, and immunohistologic observations. *Arch Dermatol*, 120:1045, 1984.
12. Zackheim HS: Is "localized epidermotrophic reticulosis" (Woringer-Kolopp disease) benign? *J Am Acad Dermatol*, 11:276, 1984.
13. Macaulay, WL: Lymphomatoid



- papulosis. *Int J Dermatol*, 17:204, 1979.
14. Madison JF, OKeefe TE, Meier FA, *et al.*: Lymphomatoid papulosis terminating as cutaneous T cell lymphoma (mycosis fungoides.) *J Am Acad Dermatol*, 9:743, 1983.
  15. Sanchez NP, Pittlekow MR, Muller SA, *et al.*: The clinicopathologic spectrum of lymphomatoid papulosis: Study of 31 cases. *J Am Acad Dermatol*, 8:81, 1983.
  16. Marx JL, Vale M, Dermer P, *et al.*: Actinic reticuloid. *Arch Dermatol*, 118:672, 1982.
  17. Pinkus H: Alopecia mucinosa. Additional data in 1983. *Arch Dermatol*, 119:698, 1983.
  18. Thioulet J, Fulton R, Souteyrand P, *et al.*: Sezary syndrome: relative increase in T helper lymphocytes demonstrated by monoclonal antibodies. *Acta Derm Venereol (Stockh.)*, 62:337, 1982.
  19. Camisa C, Goldstein A: Mycosis fungoides. Small bowel involvement complicated by perforation and peritonitis. *Arch Dermatol*, 117:234, 1981.
  20. Vonderheid EC, Milstein HJ, Thompson KD: Chronic herpes simplex infection in cutaneous T cell lymphomas. *Arch Dermatol*, 116:1018, 1980.
  21. Vonderheid EC, VanVoorst Vader PC: Herpes zoster varicella in cutaneous T cell lymphomas. *Arch Dermatol*, 116:408, 1980.
  22. Ackerman AB: *Histologic Diagnosis of Inflammatory Skin Diseases*, Lea & Fibiger, Philadelphia, 1978, pp. 215-217.
  23. Payne CM, Nagle RB, Lynch PJ: Quantitative electron microscopy in the diagnosis of mycosis fungoides. A simple analysis of lymphocytic nuclear convolutions. *Arch Dermatol*, 120:63, 1984.
  24. Yamamura T, Aozasa K, Sano S: The cutaneous lymphomas with convoluted nucleus. Analysis of thirty nine cases. *J Am Acad Dermatol*, 10:796, 1984.
  25. Piepkorn M, Marty J, Kjeldsberg CR: T cell subset heterogeneity in a series of patients with mycosis fungoides and Sezary syndrome. *J Am Acad Dermatol*, 11:427, 1984.
  26. McMillan EM, Beeman K, Wasik R, *et al.*: Demonstration of OKT6 reactive cells in mycosis fungoides. *J Am Acad Dermatol*, 6:880, 1982.
  27. McMillan EM, Peters S, Jackson I, *et al.*: Immunoperoxidase examination of cutaneous infiltrates of mycosis fungoides and large plaque atrophic parapsoriasis with OKT10. *J Am Acad Dermatol*, 10:457, 1984.
  28. Lutzner MA, Jordan HW: The ultrastructure of an abnormal cell in Sezary's syndrome. *Blood*, 31:719, 1968.
  29. Thiers BH: Controversies in mycosis fungoides. *J Am Acad Dermatol*, 7:1, 1982.
  30. Milstein HJ, Vonderheid EC, VanScott EJ, *et al.*: Home ultraviolet phototherapy of early mycosis fungoides: preliminary observations. *J Am Acad Dermatol*, 6:355, 1982.
  31. Gilchrist B, Parrish J: Mycosis fungoides (proceedings). *Arch Dermatol*, 114:1726, 1978.
  32. Molin L, Thomsen K, Volden G, *et al.*: Photochemotherapy (PUVA) in pretumor stage of mycosis fungoides: report from the Scandinavian mycosis fungoides study group. *Acta Derm Venereol (Stockh.)*, 61:47, 1980.
  33. Abel EA, Deneau DG, Farber EM, *et al.*: PUVA treatment of erythrodermic and plaque type mycosis fungoides. *J Am Acad Dermatol*, 4:423, 1981.
  34. Bickers DR: Position paper PUVA therapy. American Academy of Dermatology. *J Am Acad Dermatol*, 8:265, 1983 (Review).
  35. Hamminga B, Noordijk EM, VanVloten WA: Treatment of mycosis fungoides: total skin electron beam irradiation vs topical mechlorethamine therapy. *Arch Dermatol*, 118:150, 1982.
  36. Fuks Z, Hoppe RT, Bagshaw MA: The role of total skin irradiation with electrons in the management of mycosis fungoides. *Bull Cancer*, 64:291, 1977.
  37. Ramsay DL, Parnes RE, Dubin N: Response of mycosis fungoides to topical chemotherapy with mechlorethamine. *Arch Dermatol*, 120:1585, 1984.
  38. Lee LA, Fritz KA, Golitz L, *et al.*: Second cutaneous malignancies in patients with mycosis fungoides treated with nitrogen mustard. *J Am Acad Dermatol*, 7:590, 1982.
  39. Zaekheim HS, Epstein EH Jr, McNutt NS, *et al.*: Topical carmustine (BCNU) for mycosis fungoides and related disorders: a 10 year experience. *J Am Acad Dermatol*, 9:363, 1983.
  40. Kessler JF, Yskens FL Jr, Levine N, *et al.*: Treatment of cutaneous T cell lymphoma (mycosis fungoides) with 13-cis retinoic acid. *Lancet*, 1:1345, June 18, 1983.
  41. Claudy AL, Ronchouse B, Boucheron S, *et al.*: Treatment of cutaneous lymphoma with etretinate. *Br J Dermatol*, 109:49, 1983.

## INDIANA MEDICAL BUREAU

1010 East 86th St.—72 Winterton

Indianapolis 46240

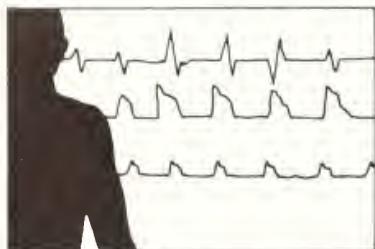
844-7933

*A Licensed Employment Agency  
Specializing in Medical Personnel*

*Since 1952*



# Medical Management of the Burned Patient



ADULT CRITICAL CARE MEDICINE

---

STEPHEN E. OLVEY, M.D.  
Indianapolis

---

**The Burned Patient  
Presents a Picture  
of Total Body  
Failure That Is  
Rapid in Onset  
and Prolonged  
in Nature . . .**

**B**EING BURNED is probably the most feared of all traumatic events. In the United States only motor vehicle accidents cause more accidental deaths than burns.<sup>1</sup> No other form of trauma is potentially so disfiguring and disabling. For those who survive, there is a long and painful period of hospitalization, reconstruction, and rehabilitation. For physicians involved in the care of the burned patient there is a supreme challenge, for the burned patient presents a picture of total body failure that is rapid in onset and prolonged in nature. Few other patients fit the concept of critical or titrated care as well as the burned patient. This discussion attempts only to identify key aspects in the medical management of these patients. A complete discussion of all aspects or ramifications of medical burn care is not possible in such an introduction.

## Initial Management

**Airway:** The majority of burned patients, even those with severe burns, arrive at the hospital deceptively awake and alert with reasonably stable vital signs. Assuming appropriate advanced trauma life support measures have been provided in the field, including IV insertion, airway management, and other measures as dictated by the circumstances surrounding the event, the first priority in the hospital is to insure continued airway control. Any patient who has evidence of facial burns, singeing of nasal hairs, carbonaceous sputum, or history of exposure to an explosion or fire within an enclosed space, will usually require

elective intubation. If delayed, swelling of the neck and respiratory structures may make intubation impossible, thus requiring surgical access to the airway which is not desirable as an emergent procedure or through an area of extensive burn.

**Circulation:** Maintenance of an adequate circulating volume must be achieved. The need for large quantities of salt-containing fluids is well known, and nearly all prehospital care givers start the initial fluid resuscitation using one of the previously published burn formulae. These formulae are good for the prehospital phase of care only, however. Recent studies of fluid resuscitation in burned patients have changed later fluid management. Increased microvascular permeability in burn tissue and a generalized cell-membrane defect that results in intracellular swelling have been well described.<sup>2</sup> Although not directly measurable, there appears to be an increase in the interstitial osmotic pressure of burned tissue immediately after the burn since the rate of early fluid loss from the intravascular compartment far exceeds that expected from increased capillary permeability alone. Also, many potent vasoactive mediators are known to be released from burn tissue. All of these factors enhance the formation of tissue edema fluid.<sup>3</sup> Except possibly for hypertonic saline (250 mmol sodium/liter), the various fluid regimens used to maintain hemodynamic stability in burned patients permit this burn tissue edema.<sup>4</sup>

New information conflicts with earlier beliefs that there is a subsequent generalized increase in microvascular permeability throughout non-burned tissue. Except for an early transient change in permeability, probably caused by histamine, the edema that occurs in nonburned soft tissues

---

The author is an Associate Medical Director of the Adult Critical Care Department, Methodist Hospital of Indiana, Inc., 1604 N. Capitol Ave., Indianapolis, Ind. 46206. In addition, he serves as Medical Director of Championship Auto Racing Teams (CART).

does not appear to be due to altered protein permeability, but to the severe hypoproteinemic state which may evolve in the burned patient.<sup>5</sup> There also does not appear to be any altered permeability in the lungs after burns, unless severe smoke inhalation has occurred. Early colloid infusion has been shown to minimize edema in the non-burned tissues and to increase blood volume better than does crystalloid, but has not yet been clearly shown to improve survival.<sup>6</sup>

To aid in the process of fluid resuscitation in patients who are burned over greater than 20% of their body surface area, it is suggested that an arterial line and pulmonary artery catheter be placed to record accurate hemodynamic data. Such data will guide therapy for intravascular volume expansion and use of vasoactive drugs. The fiberoptic pulmonary artery catheter system allows continuous monitoring of the mixed venous oxygen saturation (SV02), a variable which is likely to detect early hemodynamic or metabolic dysfunction.

Current data therefore suggest that significantly burned patients be resuscitated with fluids to include hypertonic saline so as to maintain an adequate intravascular volume and a normal colloid osmotic pressure. Appropriate colloidal solutions for infusion include plasmanate, 5% albumin or increments of salt poor albumin in doses of 25-50 grams. By following hemodynamic profiles on a regular basis one can maximize cardiac efficiency and oxygen delivery as well as maintain an adequate circulating volume (Fig. 1).

In addition to the above monitoring techniques, every burned patient must have an EKG monitor and either a Foley catheter or suprapubic catheter in place to measure hourly urine output. Ear oximetry, if available, is helpful as well.

### Burn Effects on Organ Systems

Lung dysfunction continues to be the leading cause of death in the first 48

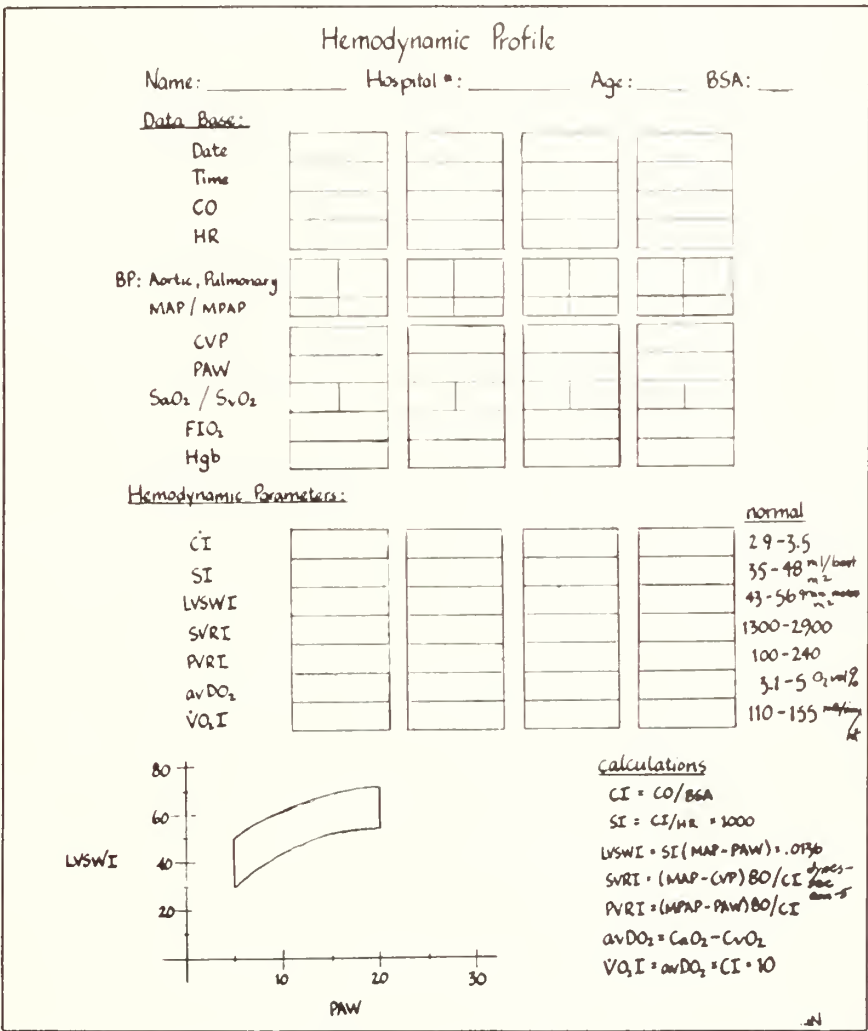


FIGURE 1—Current hemodynamic profile work sheet used at Methodist Hospital, Indianapolis.

hours post-burn. Water soluble gases that are found in smoke from burning plastics or rubber, such as ammonia, sulfur dioxide, and chlorine, react with water in mucous membranes to produce strong acids and alkali that can induce bronchospasm, ulceration of the mucous membranes, and edema.<sup>7</sup> Other toxic agents such as nitrous oxide, phosgene, hydrogen chloride, and various toxic aldehydes, impair the ciliary action of the lungs. Both of these effects enhance abnormal bacterial growth and predispose to pneumonitis.

Pulmonary complications in burn victims often do not develop for 24 to 48 hours after admission, which requires careful monitoring of blood gases and other respiratory variables. The treatment for pulmonary dysfunction due to burns includes endotracheal intubation with mechanical ventilation, positive- and expiratory pressure and attentive respiratory therapy. Steroids are ineffective, and antibiotics should be reserved for documented pneumonia.

Individuals burned over more than 50% of their body surface area usually

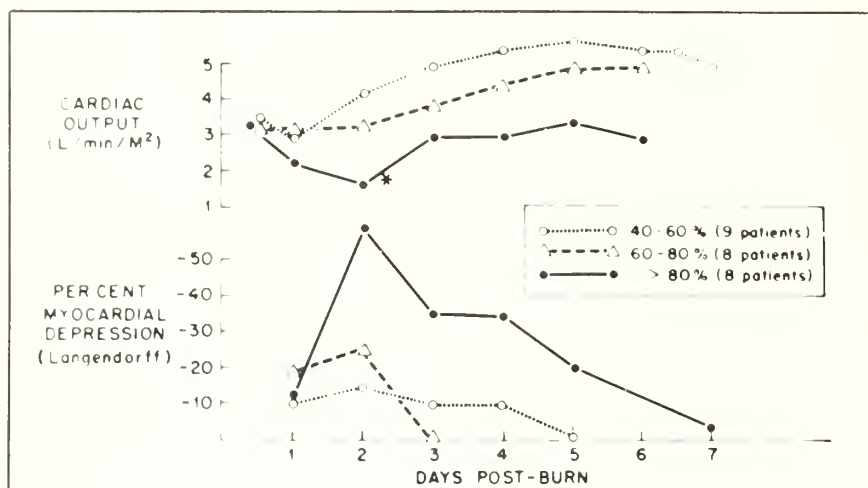


FIGURE 2—Effect of myocardial depressant factor on cardiac output in burned patients.

develop a marked decrease in cardiac output (Fig. 2). This has been attributed to a circulating protein fragment, the so-called myocardial depressant factor. Therefore, it is important to monitor indicators of cardiac output. Changes in the mixed venous oxygen saturation usually reflect changes in cardiac function, so a decline in cardiac output as reflected by a lower  $SV_{O_2}$  should prompt the use of inotropic agents. Dopamine and/or dobutamine are usually sufficient to accomplish this task, provided adequate circulating volume is maintained.

Burned patients are the most catabolic of all patients. In fact, the metabolic rate in patients burned over 50% of their body surface area doubles. Associated with this increased metabolism is protein catabolism, ureagenesis, lipolysis and accelerated gluconeogenesis. An increase in body heat production is manifested by an increase of 1 to 2 degrees centigrade in core temperature. This is thought to be due to a resetting of the hypothalamic temperature center.<sup>8</sup> Simultaneously, heat loss from the patient's burned surface may cause hypothermia. Therefore, burned patients must be kept in rooms with an elevated ambient temperature.

Nutritional support of these patients is critically important. Glucose should account for 50% of the total caloric intake, while protein should constitute 15 to 20% of calories and the rest should be in the form of fat. Recent studies have shown substantial benefits, as assessed by improved immune function and increased survival, from high-protein diets that are aimed at achieving a 100 to 1 calorie to nitrogen ratio.<sup>9</sup> Proper nutrition has been the area of therapy most responsible for the recent improvement in burn survival. In addition to the caloric mix noted, burned patients require twice the normal amount of zinc and at least 1000 mg of vitamin C per day. If multiple trauma is associated with the burn injury then the protein fraction should be made up largely of branched chain amino acids.

Infection in the burned patient is the leading cause of death after the first 48 hours of admission. All significantly burned patients become septic at some time during their hospital course, yet prophylactic antibiotics have no place in the management of burned patients. Systemic antibiotics should be used only in response to documented positive culture results either from the blood or from quantitative analysis of

a full thickness biopsy of the burn wound, or when the diagnosis of sepsis can be made clinically. Antibiotics with the greatest specificity should be used, with attention to saving the "big guns" for later, more resistant infections. Monitoring the plasma levels of antibiotics used is also vitally important.

Monitoring the gastric pH and maintaining it between 3.5 and 4.5 is not only important in the prevention of gastrointestinal bleeding, but also lessens the chance of systemic fungal infection. Candidal growth is enhanced in the GI tract when the gastric pH exceeds 4.5. This colonization predisposes the patient to systemic contamination through the respiratory tract or via the burn wounds themselves. Burn wound infection may lead to systemic sepsis with shock and acidemia, especially following debridement procedures. The fiberoptic system of pulmonary artery monitoring, with continual readout of the mixed venous oxygen saturation, may reflect the development of sepsis when the  $SV_{O_2}$  climbs to supernormal levels. If the mixed venous saturation, however, suddenly drops below normal, either acute blood loss, hypoxia, or the development of a relatively low cardiac output state is usually the cause. These three unwanted events can easily be differentiated by obtaining a STAT hemoglobin, an arterial blood gas, and a cardiac output.

When sepsis is suspected and after cultures are obtained, empiric therapy may be started with an aminoglycoside and an anti-staphylococcal agent for the first such episode with adjustments made pending culture and sensitivity results. With careful monitoring and early addition of appropriate therapy, most septic events can be overcome.

Newer techniques in isolation, including laminar flow rooms, have failed to prove superior to traditional forms of meticulous isolation. In our unit all central venous lines are changed every three days. The first change at a particular site is usually made over a wire, with the old catheter tip sent for colony



count. If the catheter tip is found to be contaminated, the catheter site is immediately changed. Arterial sites are changed every five days, provided sufficient access is available. Line management in a burned patient may be very difficult and often requires surgically placed permanent vascular access. Long-term hyperalimentation is often best managed with a Broviac or similar catheter because a regular central line has a much greater chance of becoming a source of bacteremia.<sup>10</sup> Cutdowns also are to be avoided where possible because they, too, have a threefold greater chance of becoming infected.

Many immunological deficits occur in burned patients; studies now show that early wound covering can reverse many of these defects.<sup>11</sup> The hospital caring for the burn victim must be prepared to operate early and frequently on a severely compromised patient who is often in shock, catabolic, and immunocompromised. Burn wound management is not within the scope of this paper. Many new advances have been made in this area and there is much promise for the future.<sup>12</sup>

The care of the burned patient must be multidisciplinary. Involved in the care of burn patients are not only the plastic and general surgeons, but the intensivists, nephrologists, infectious disease specialists and psychiatrists as well. Ancillary services are also extensively utilized, including occupational therapy, physical therapy, hyperbaric therapy and nutritionists. Obviously, the care of the burned patient requires extensive cooperation among disciplines. Hospital resources are taxed severely during the burned patient's care, and coordination among services is necessary.

Once a patient is severely burned, he enters a long, painful and arduous journey fraught with a high mortality and significant morbidity along the way. It is encouraging to note that in

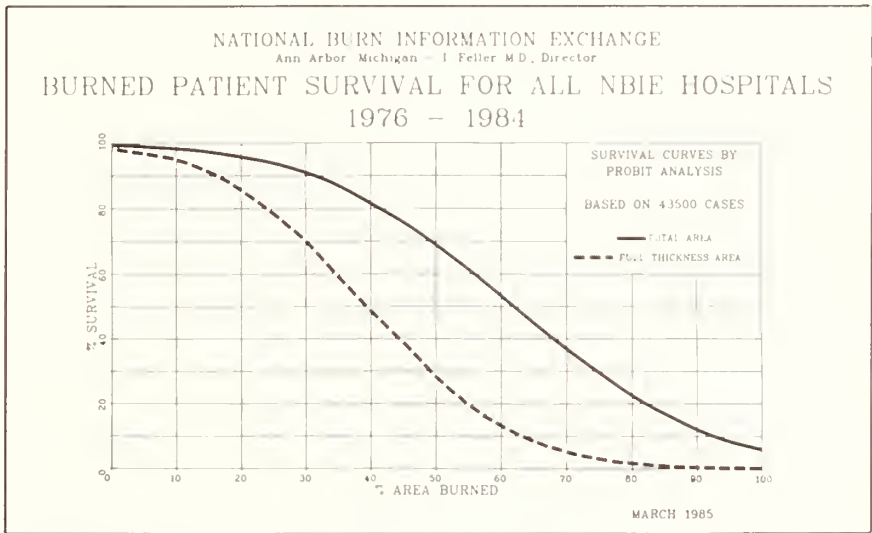


FIGURE 3—Most recent statistics from participating burn centers in the United States.

the last several years, primarily as a result of improved nutritional techniques, improved burn wound management and appropriate hemodynamic monitoring, the outlook for burned patients is considerably improved over what it was 10 years ago. Figure 3 reveals the most recently compiled statistics from participating burn centers in the United States. Currently, the long-held belief that the percent burn plus one's age equals the mortality rate is no longer valid and that often, burned patients whose numbers add up to greater than 100%, do survive and leave the hospital in a functional state.

#### REFERENCES

1. *Accident Facts*, Chicago: National Safety Council, 1983.
2. Baxter CR: Fluid volume and electrolyte changes in the early postburn period. *Clin Plast Surg*, 1:693-703, 1974.
3. Arturson G: Microvascular permeability to macromolecules in thermal injury. *ACTA Physiol Scand* [Suppl], 463:111-122, 1979.
4. Monafó WW, Chunktrasakul C, Ayvazian VH: Hypertonic sodium solutions in the treatment of burn shock. *Am J Surg*, 126:778-783, 1973.
5. Harms BA, Bodai BI, Kramer GC, Demling RH: Microvascular fluid and protein flux in pulmonary and systemic circulations after thermal injury. *Microvasc Res*, 23:77-86, 1982.
6. Goodwin CW, Dorethy J, Pruitt BA Jr: Randomized trial of efficacy of crystalloid and colloid resuscitation on hemodynamic response and lung water following thermal injury. *Ann Surg*, 197:520-531, 1983.
7. Demling RH: Burns. *New Engl J Med*, 313:1389-1397, 1985.
8. Wilmore DW, Aulick LH, Becker RH: Effect of ambient temperature on heat production and heat loss in burn patients. *J Appl Physiol*, 38:593-597, 1975.
9. Alexander JW, MacMillan BG, Stinnett JD, et al: Beneficial effects of aggressive protein feeding in severely burned children. *Ann Surg*, 192:505-517, 1980.
10. Sprung CL, Grenvik A, eds: *Clinics in Critical Care Medicine: Invasive Procedures in Critical Care*. New York: Churchill Livingstone, 1985.
11. Demling RH: 1389-1397.
12. Demling RH: 1389-1397.
13. Artz CP, Moncrief JA, Pruitt BA, eds: *Burns, A Team Approach*. Philadelphia: Saunders, p 176, 1979.

# Hazards of Slow K

## Small Bowel Perforation Following Slow Release Potassium Chloride Therapy

HARRY SIDERYS, M.D.  
PAM LINDEN, R.N.  
Indianapolis

**I**N 1965 Lindholmer and Raf<sup>1</sup> reported the association of stenosing ulcerations of the small bowel with the use of enteric coated potassium chloride tablets.

By 1970 enteric coated potassium preparations were removed from the market, leaving a need for an oral preparation that would not produce high concentrations of potassium chloride in short segments of intestine. These high concentrations resulted in the characteristic circumferential ulcerations that led to bleeding, obstruction and perforation in both the jejunum and ileum.

These hazards were thought to be ameliorated with the development of slow-release potassium. These drugs were designed to accomplish slow release by coating the KC1 crystals with a wax.

Ten cases were found in the literature with ulceration, stricture and perforation in the gastrointestinal tract following slow-release potassium chloride therapy including oral, esophageal, gastric, and small bowel ulceration. These cases suggest that in certain circumstances, slow-release potassium chloride may also be associated with enteric injury.

### Case Report

A 65-year-old male diabetic was ad-

mitted for severe peripheral arteriosclerosis associated with rest pain. Work-up revealed a large abdominal aortic aneurysm, severe iliac arterial disease, as well as peripheral arteriosclerosis. He also suffered moderate renal functional impairment. It was decided that the first step in his management should be an aortic to bifemoral graft with resection of his abdominal aortic aneurysm.

He tolerated this operation well and on the fourth postoperative day he was started on oral liquids plus a diuretic and potassium chloride therapy via slow release KC1 tablets. After gradually improving over the next two days, he suddenly developed an acute abdomen. At laparotomy, an isolated 5mm. perforation in the mid jejunum was identified and repaired. This operation was not in the vicinity of any of the suture lines, was not associated with vascular insufficiency of the bowel and there was no evidence of trauma in the vicinity. Failing to identify any other cause, we suspected the oral potassium therapy. Unfortunately, the patient later succumbed to complications of peritonitis and renal failure.

After hundreds of reported cases of bowel injury and perforation associated with enteric coated potassium chloride tablets resulted in their withdrawal from the market, the introduction of slow-release potassium chloride tablets promised the clinician a safer alternative.

Unfortunately, reports of injury to the G.I. tract associated with the slow release KC1 tablets have appeared and warrant our attention. Included in these reports are one oral ulceration,<sup>2</sup> a number of esophageal ulcerations,<sup>3,4</sup>

three stricture ulcerations of the small bowel,<sup>5,6,7</sup> and three perforations of the small bowel.<sup>8,9,10</sup>

Analysis of all these cases suggests one common factor, i.e., slow intestinal transit time due to congestive heart failure, mesenteric vascular insufficiency, resolving ileus, or a variety of other causes including achalasia and Crohn's disease. In our case, it is very likely that the patient's intestinal transit time was delayed related to his postoperative ileus.

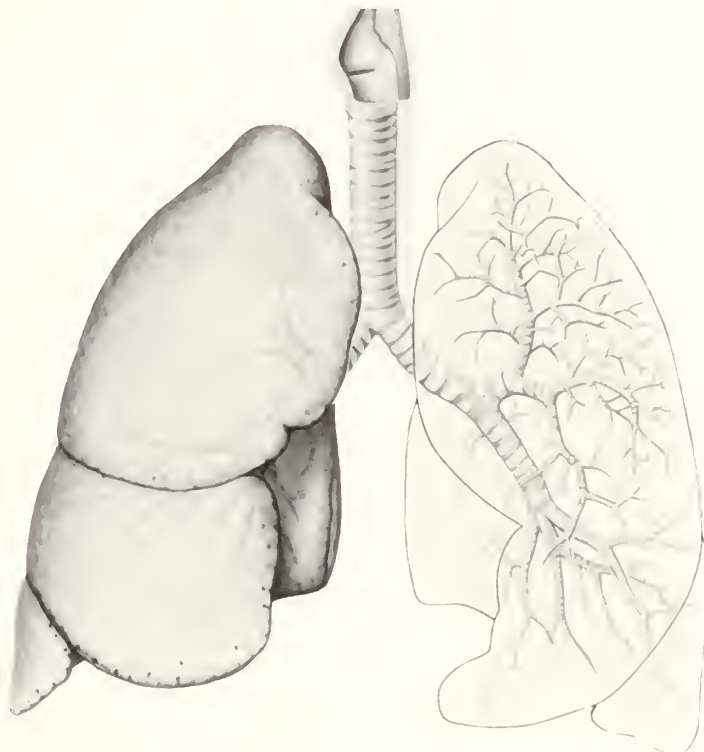
### REFERENCES

1. Lindholmer B, Raf L: Non-specific stenosing ulceration of the small intestine. *Acta Chir Scand*, 129:434-442, 1965.
2. McAvoy BR: Mouth ulceration and slow-release potassium tablets. *Br Med J*, 4:164-165, 1974.
3. Lambert JR, Newman A: Ulceration and stricture of the esophagus due to one oral potassium chloride (slow-release tablet) therapy. *Am J Gastroenterol*, 73:508-511, 1980.
4. McCall AF: Slow K ulceration of oesophagus with aneurysmal left atrium. *Br Med J*, 3:230-231, 1975.
5. McMahon FG, Akdamar K: Gastric ulceration after "Slow K." *N Engl J Med*, 295:733-734, 1976.
6. Heffernan SJ, Murphy JJ: Ulceration of small intestine and slow-release potassium tablets. *Br Med J*, 6:746-747, 1975.
7. Weiss SM, Rutenberg HL: Gut lesions due to slow-release KC1 tablets. *N Engl J Med*, 296:111-112, 1977.
8. Treasure T: Ulceration of small intestine and slow-release potassium tablets. *Br Med J*, 8:302, 1975.
9. Lofgren P, Rothe Peter, Carlson J: Jejunal perforation associated with slow-release potassium chloride. *Southern Med Journal*, 75(9):1154-1155, 1982.
10. Farquharson-Roberts MB, Giddings AE, Nunn AJ: Perforation of small bowel due to slow-release potassium chloride. *Br Med J*, 7:206, 1975.

From the Cardiovascular Center, Methodist Hospital of Indiana, Inc., 1604 N. Capitol Ave., Indianapolis, Ind. 46202.



# Consider the causative organisms...



## Cecilor<sup>®</sup> cefactor

### 250-mg Pulvules<sup>®</sup> t.i.d.

## offers effectiveness against the major causes of bacterial bronchitis

*H. influenzae*, *H. influenzae*, *S. pneumoniae*, *S. pyogenes*  
(ampicillin-susceptible) (ampicillin-resistant)

**Brief Summary** Consult the package literature for prescribing information

**Indications and Usage** Cecilor<sup>®</sup> (cefactor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cecilor.

**Contraindication** Cecilor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

**Warnings** IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Cecilor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics including macrolides, semisynthetic penicillins, and cephalosporins; therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, manage-

ment should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

**Precautions** **General Precautions**—If an allergic reaction to Cecilor<sup>®</sup> (cefactor, Lilly) occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids. Prolonged use of Cecilor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures, when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Cecilor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Cecilor, a false positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with ClinTest<sup>®</sup> tablets but not with Tes-Tape<sup>®</sup> (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

**Usage in Pregnancy**—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum

human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Cecilor<sup>®</sup> (cefactor, Lilly). There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

**Nursing Mothers**—Small amounts of Cecilor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.16, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Cecilor is administered to a nursing woman.

**Usage in Children**—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

**Adverse Reactions** Adverse effects considered related to therapy with Cecilor are uncommon and are listed below.

**Gastrointestinal symptoms** occur in about 2.5 percent of patients and include diarrhea (1 in 70). Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

**Hypersensitivity reactions** have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100), pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthritis, and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Cecilor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have

occurred in patients with a history of penicillin allergy. Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

**Causal Relationship Uncertain**—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

**Hepatic**—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

**Hematopoietic**—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

**Renal**—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

**Note** Cecilor<sup>®</sup> (cefactor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

© 1984, ELI LILLY AND COMPANY



Additional information available to the profession on request from  
Eli Lilly and Company,  
Indianapolis, Indiana 46285  
Eli Lilly Industries, Inc.  
Carolina, Puerto Rico 00630

420441



# Acute Wernicke's Encephalopathy in a Recently Recovered Alcoholic

ROBYN K. GOSHORN, M.D.  
Franklin

THE CENTRAL NERVOUS SYSTEM disease caused by thiamine deficiency was first described by Wernicke in the 19th century. The classical presentation of the disease is represented by a malnourished alcoholic with findings of confusion, ataxia and ophthalmoplegia. These neurological signs may be associated with the amnestic-confabulatory disorder, Korsakoff's psychosis.

Thiamine is present in many types of food, and is particularly abundant in whole grain. Its active form, thiamine pyrophosphate, serves as an essential co-enzyme in glucose metabolism and fatty acid and cholesterol synthesis (Table 1). Despite elucidation of the role of thiamine in metabolism, experimental data have not proven a correlation between any of thiamine's biochemical functions and the pathogenesis of Wernicke's disease.<sup>1</sup>

Thiamine requirement depends on the amount of carbohydrate being used as an energy substrate. This fact underlies the well recognized potential for dextrose infusion or refeeding after starvation to precipitate symptomatic thiamine deficiency.<sup>2</sup>

The author is a Clinical Assistant Professor of Medicine, Indiana University School of Medicine, and is Medical Director of the Exercise Testing Laboratory and Cardiac Rehabilitation at Johnson County Memorial Hospital, Franklin, Ind.

Correspondence: Johnson County Internal Medicine Associates, Inc., 1101 W. Jefferson St., Suite E, Franklin, Ind. 46131.

Alcohol impairs active transport of thiamine across the small intestinal mucosa,<sup>3</sup> decreases hepatic uptake and storage of thiamine,<sup>4</sup> and inhibits hepatic pyrophosphate kinase, the enzyme responsible for activating thiamine to thiamine pyrophosphate.<sup>4</sup> Experimental studies have suggested that alcohol ingestion is likely to cause thiamine deficiency only when thiamine intake is marginal.<sup>3</sup>

Thiamine deficiency is clinically recognized most often in, but is by no means limited to, malnourished alcoholics. Clinicians' index of suspicion for this disease tends to be (inappropriately) lower when dealing with apparently better nourished "middle-class" alcoholics and in states of non-alcoholic nutritional deficiency.<sup>5,6</sup> Awareness of the full spectrum of the clinical manifestations of thiamine deficiency is important because this eminently treatable disease can lead to irreversible central nervous system damage if not recognized and treated promptly. The need for this index of suspicion is underlined by reports of autopsy series which suggest that Wernicke's encephalopathy is more common than is generally appreciated. Large series of sequential autopsies over several year periods from Australia, Cleveland, and New York have shown neuropathological lesions typical of Wernicke's encephalopathy in 1.7 to 1.9% of patients dying of all causes.<sup>7</sup>

### Report of a Case

A 31-year-old white man was brought to the emergency department by his wife because of "double vision." He had felt well until he awakened on the morning of admission, when he noticed diplopia and difficulty walking. For many months prior to admission he

had consumed an average of 10 to 15 beers per day. He reported that he rarely ate more than one meal a day, usually in fast-food restaurants. Nine days prior to admission he decided to stop drinking. He consulted his family doctor, who treated him with Antabuse and Limbitrol. He successfully stopped drinking without withdrawal symptoms, and began eating a more normal diet. He had no previous hospitalization, serious illnesses or trauma.

On examination, his temperature was 97.4 orally and his blood pressure was 120/90. He was five feet, seven inches tall, and weighed 165 pounds. He was oriented, alert, cooperative, and appropriately anxious regarding his visual disturbance. Funduscopic examination and pupillary reactions were normal. The left eye was noted to deviate to the left intermittently. The right eye was unable to cross the midline to the left, and deviated either upward or downward on attempted left lateral gaze. His gait was ataxic and he

TABLE 1  
Enzymes for Which Thiamine  
Pyrophosphate Is an Essential  
Cofactor

ENZYME	FUNCTION
Transketolase	Hexose monophosphate shunt
Alpha Ketoglutarate dehydrogenase	Krebs cycle
Pyruvate dehydrogenase	Embden Meyerhoff pathway
Choline acetyl transferase	Acetylcholine synthesis

**TABLE 2**  
Signs and Symptoms of  
Wernicke's Encephalopathy

Confusion
Ataxia
Ophthalmoplegia
Pupillary abnormalities
Ptosis
Retinal hemorrhages
Papilledema
Hypothermia
Hypotension
Seizures
Syndrome of inappropriate antidiuretic hormone secretion
Impaired caloric responses
Coma

could not tandem walk. Muscle stretch reflexes were absent at the ankles.

The diagnosis of Wernicke's encephalopathy was suspected. He was treated with 200 mg. of thiamine intravenously immediately and 50 mg. of thiamine intramuscularly daily for seven days. Signs began to improve within two hours of his first dose of thiamine, and cleared completely within 48 hours. The role of alcohol abuse in his disease was emphasized to him. Over a 10-month follow-up period, he has abstained from alcohol and has remained well.

#### Discussion

This patient's ataxia and ophthalmoplegia, along with his history of alcohol abuse and the precipitation of the disease by increased carbohydrate intake, made the diagnosis of Wernicke's encephalopathy immediately apparent. However, as emphasized in a recent review of Wernicke's encephalopathy, "... the classic triad is neither frequently nor consistently encountered. . . ."<sup>8</sup> Additional signs and symptoms which have been associated with Wernicke's encephalopathy are listed in *Table 2*.<sup>6,8,9</sup> Coma and hypothermia deserve special emphasis. Alcoholics and malnourished persons

with these conditions should receive parenteral thiamine while other possible etiologies are being investigated.

History of alcoholism is an important clinical clue to the diagnosis of Wernicke's disease. However, many non-alcoholic conditions predisposing to nutritional deficiency have been associated with Wernicke's encephalopathy.<sup>8,10</sup> (*Table 3*). In one of Wernicke's original three cases, the underlying disorder was malnutrition due to pyloric stenosis caused by sulfuric acid ingestion.<sup>11</sup> Virtually any condition that impairs the nutritional state could result in CNS damage due to thiamine deficiency, especially if combined with alcohol exposure.

Certainly not all malnourished alcoholics develop Wernicke's disease. On the other hand, a case has been reported in which intravenous nitroglycerin with its alcohol-containing diluent precipitated Wernicke's encephalopathy with a blood alcohol level of only 21 mg/dl in a non-alcoholic patient.<sup>4</sup> Such observations suggest a genetic predisposition to the development of Wernicke's encephalopathy. Blas and Gibson found biochemical evidence of such genetic susceptibility when they showed that transketolase from fibroblasts of patients with Wernicke's disease bound thiamine pyrophosphate less avidly than that of control lines.<sup>12</sup>

#### Summary

The diagnosis of Wernicke's disease should be considered and thiamine supplementation undertaken in any patient with neurological signs or symptoms, cardiovascular collapse, or hypothermia in the setting of alcohol exposure and/or abnormal nutritional state. In these clinical settings, the potential for thiamine deficiency should be remembered and prophylactic use of thiamine should be liberal. There have been calls for addition of thiamine to alcoholic beverages for over a decade. Considering the cost-benefit ratio, it is difficult to understand why such a simple and potentially important

**TABLE 3**  
Non-Alcoholic Conditions Associated  
with Wernicke's Encephalopathy

Hyperemesis gravidarum
Anorexia nervosa
Prolonged fasting
Gastric plication
Parenteral nutrition
Pancreatitis
Peptic ulcer disease
Hemodialysis
Various malignancies

public health measure has not been undertaken.<sup>6</sup>

#### REFERENCES

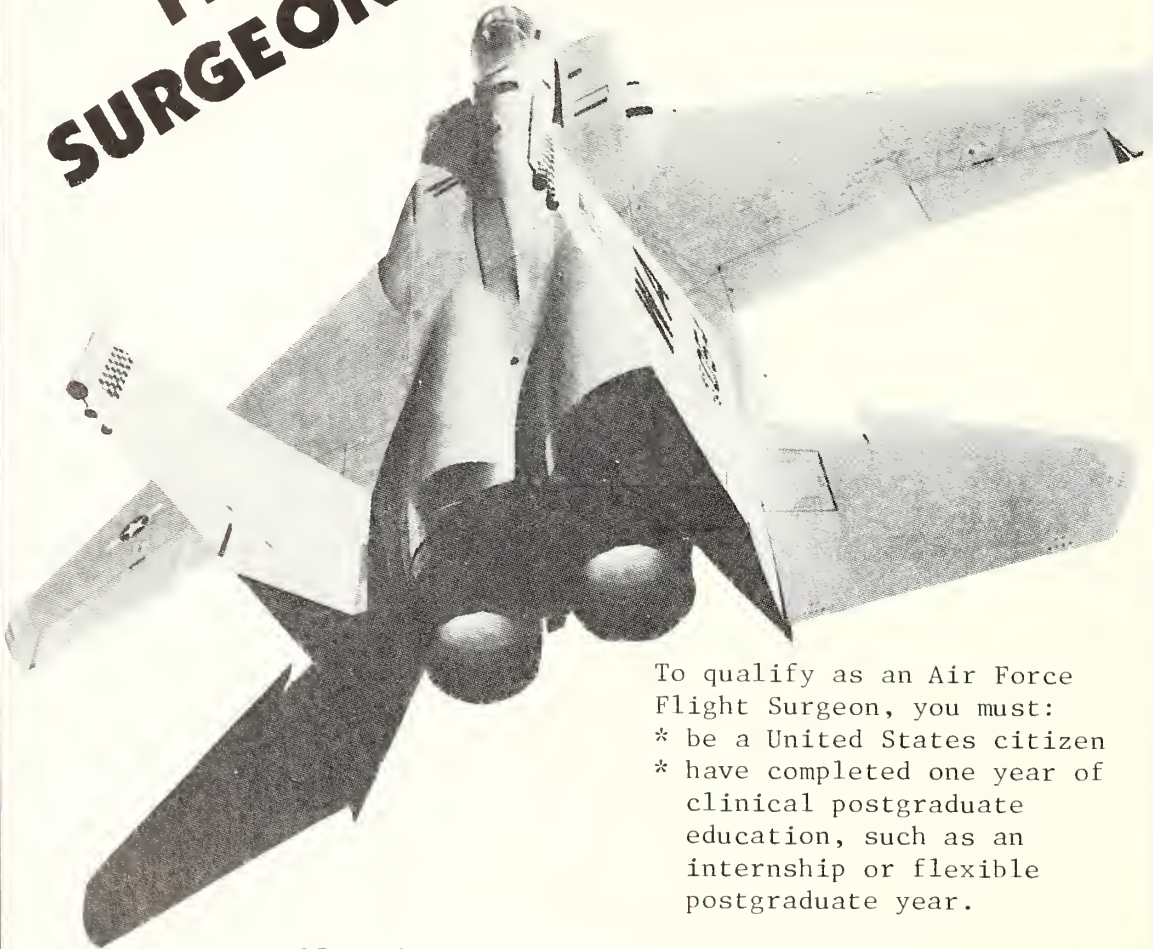
1. Schenker MD, Henderson GI, Hoyumpa MD, McCandless DW: Hepatic and Wernicke's encephalopathies: Current concepts of pathogenesis. *Am J Clin Nutr*, 33:2719-2726, 1980.
2. Pentland B, Mawdsley C: Wernicke's Encephalopathy following 'hunger strike'. *Postgrad Med J*, 58:427-8, 1982.
3. Shaw S, Gorkin BD, Lieber CS: Effects of chronic alcohol feeding on thiamine status: biochemical and neurological correlates. *Am J Clin Nutr*, 34:856-60, 1981.
4. Shorey J, Bhardwaj N, Loscalzo J: Acute Wernicke's encephalopathy after intravenous infusion of hi-dose nitroglycerin. *Ann Int Med*, 101:500, 1984.
5. Wernicke's Preventable Encephalopathy. *Lancet*, 1:1122-3, 1979.
6. Wernicke's encephalopathy. *Br Med J*, 2:291-2, 1979.
7. Harper C: Wernicke's encephalopathy: a more common disease than realized. *J Neurol Neurosurg and Psych*, 42:226-31, 1979.
8. Reuler JB, Girard DE, Cooney TG: Wernicke's encephalopathy. *NEJM*, 312:1035-9, 1985.
9. Wallis WE, Willoughby E, Baker P: Come in the Wernicke-Korsakoff syndrome. *Lancet*, 2:400-1, 1978.
10. Ebels EJ: How common is the Wernicke-Korsakoff syndrome? *Lancet*, 2:781-2, 1978.
11. Haid RW, Gutman L, Crosby TW: Wernicke-Korsakoff encephalopathy after gastric plication. *JAMA*, 247:2566-7, 1982.
12. Blass JP, Gibson GE: Abnormality of a thiamine-requiring enzyme in patients with Wernicke-Korsakoff syndrome. *NEJM*, 297:1367-1370, 1977.



# THE AIR FORCE FLIGHT SURGEON

As an Air Force Flight Surgeon you will have a truly general practice in your office. In the air you'll fly with and observe air crew members — adding a new perspective to your medical career.

Without the headaches of office overhead and paperwork, with 30 days of vacation with pay each year, with time for your family, with medical and dental care, low cost life insurance, and a generous non-contributory retirement program. Maybe it's about time to give your life a new perspective.



To qualify as an Air Force Flight Surgeon, you must:

- \* be a United States citizen
- \* have completed one year of clinical postgraduate education, such as an internship or flexible postgraduate year.

APPLICATIONS ARE BEING ACCEPTED NOW

Contact: Captain Scott Simpson  
47 S. Pennsylvania, Suite 2  
Indianapolis, IN 46204  
(317) 269-6164/6354  
Outside area call collect

**AIR**  
**FORCE**  
A great way of life.



# Motrin<sup>®</sup> 800 TABLETS mg

ibuprofen



**Extra strength**  
**Convenience**  
**Economy**



A Century  
of Caring  
1886-1986



Before prescribing, see complete prescribing information in SK&F CO. literature or PDR. The following is a brief summary.

**\* WARNING**

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

**Contraindications:** Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

**Warnings:** Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum  $K^+$  levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict  $K^+$  intake. Associated widened QRS complex or arrhythmia requires prompt additional therapy. Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

**Precautions:** The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of Dyrenium (triamterene, SK&F CO.) and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

**Adverse Reactions:** Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

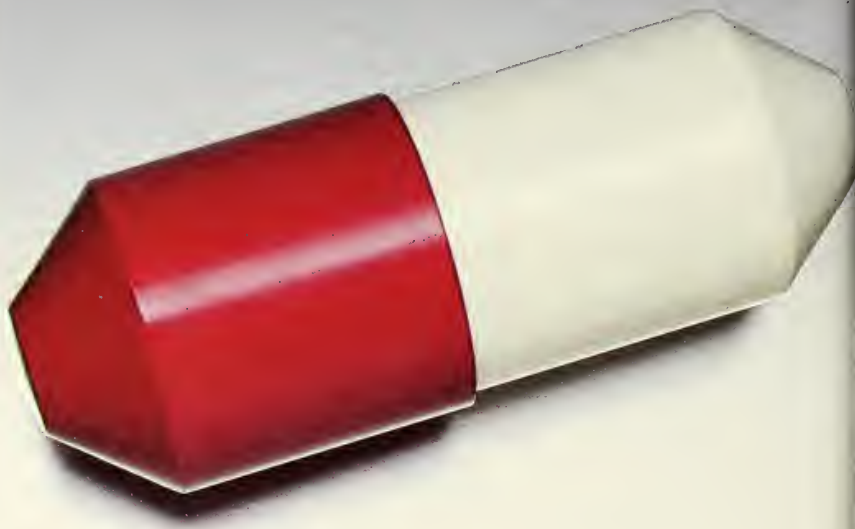
Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

BRS-DZ-L39

# In Hypertension\*... When You Need to Conserve $K^+$

## Remember the Unique Red and White Capsule: Your Assurance of SK&F Quality

Serum  $K^+$  and BUN should be checked periodically (see Warnings and Precautions).



Potassium-Sparing

**DYAZIDE®**

25 mg Hydrochlorothiazide/50 mg Triamterene/SKF

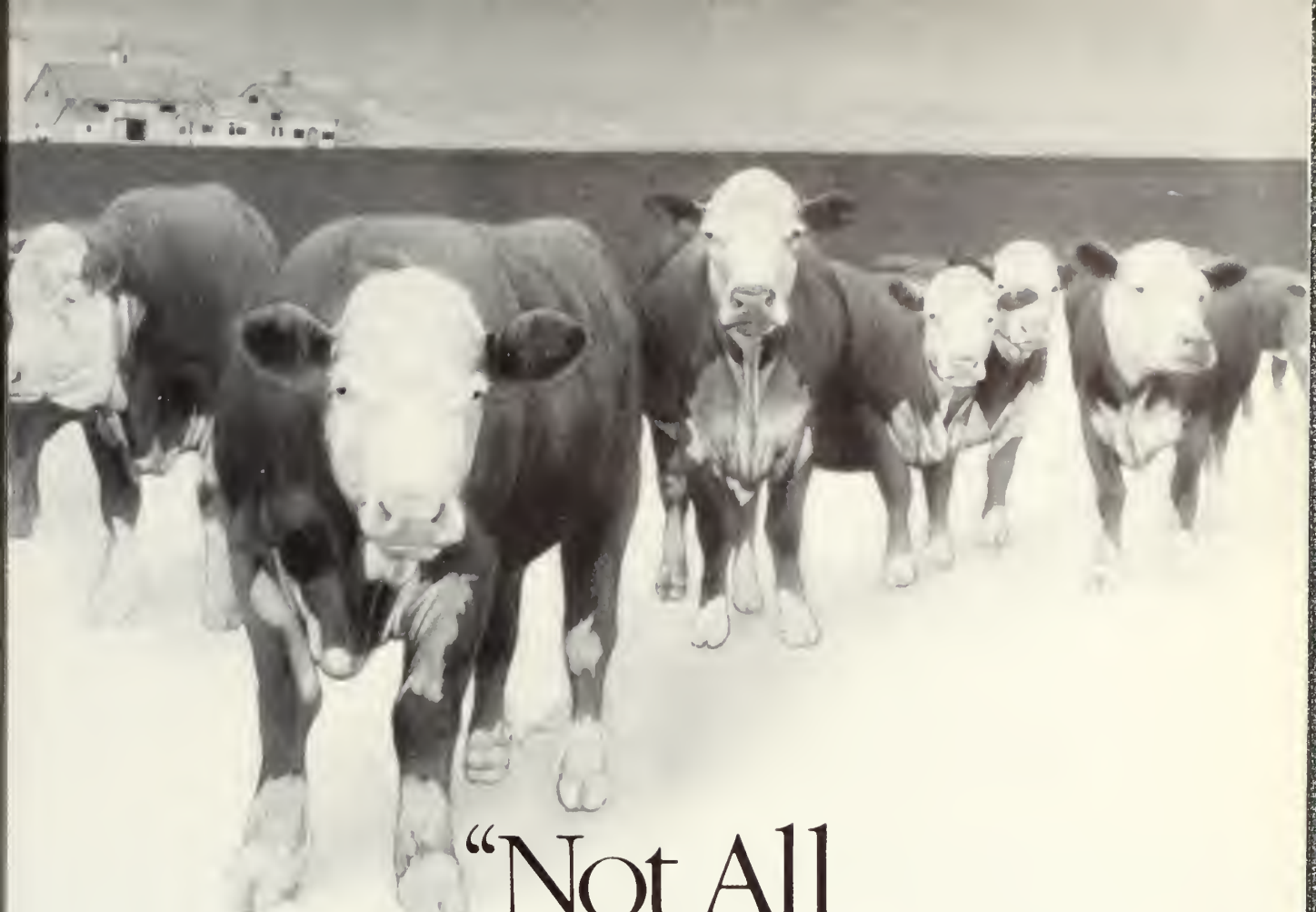
Over 19 Years of Confidence

a product of  
**SK&F CO.**

Carolina, P.R. 00630

The unique  
red and white  
Dyazide® capsule:  
Your assurance of  
SK&F quality.





# “Not All Stock Investments Are Made On Wall Street”



*Robert R. Halderman*

Midwestern earth. In fact, last year, over 50% of our farm sales were made to investors.

Historically an excellent investment, American farmland is now at its lowest price in years. Interest rates are down and the selection of available properties is outstanding.

But realizing the maximum return on a farm investment means staying on top of the latest

developments in agriculture, finance and real estate. That's where we come in. For three generations and thousands of clients, Halderman Farm Management has been dedicated to efficient, profitable farm investments. We can aid you in the selection and acquisition of farm real estate, and offer a full range of management services—from an occasional consultation, to complete management of a farm operation. Currently we manage over 700 farms.

Now is the time to invest in American farmland. Halderman Farm Management can help make it profitable. That's been our business for over 50 years.”

**HALDERMAN  
FARM  
MANAGEMENT**

For further information call or write:  
Robert R. Halderman  
Halderman Farm Management Service Inc.  
P.O. Box 297 Wabash, Indiana 46992  
(219) 563-8888



# Colon Cancer Undergoing Metamorphosis

## Guest Editorial

---

JAMES A. MADURA, M.D.  
Indianapolis

---

**T**HE CLEARLY PRESENTED report by Drs. Maglinte, *et al* in this issue of INDIANA MEDICINE points out some important facts about colon cancer and its changing distribution. Adenocarcinoma of the colon in this country has shown some surprising and frightening increases in frequency, as well as a subtle change in distribution as pointed out by the present report.

In reviewing the Maglinte statistics, it is interesting to note that the actual numbers of rectal carcinoma were identical in both the 1960s and 1970s, while the apparent change in distribution of cases is a result of a nearly doubled incidence of adenocarcinoma in the cecum, and a slight increase in the ascending colon. The change in distribution may well be a reflection of the ongoing carcinogenesis due to dietary factors in this country, resulting in an ever increasing incidence of this potentially lethal disease.

For many decades medical students have been told that 50% of colon cancers are palpable by a digital rectal exam. It would appear from this report that the number is closer to a third of all colon carcinomas, rather than one-half. Nonetheless, advancing technology has made more tumors visible than were formerly palpable. With the

availability of the flexible sigmoidoscope, 60cms. of distal colon are now easily visible in a practitioner's office as compared to the 25cms. visualized by the rigid and often uncomfortable proctoscope. Even with the changing distribution, two-thirds of tumors now are still visualized by flexible sigmoidoscopy. In addition, the colonoscope allows the entire colon to be visualized in most patients. This, however, requires adequate preparation of the patient, training of the physician, and the availability of an expensive piece of equipment, whose ongoing maintenance is tedious.

Maglinte points out that less expensive techniques of double contrast barium studies of the colon are now available in most metropolitan centers. Colonoscopy and double contrast barium enemas in most skilled hands are nearly of equal accuracy. The advantage of the colonoscope is that biopsies can be taken, while the radiologists would argue that carcinoma is obviously a carcinoma, and no biopsy is required for most of these cases. The argument between endoscopists and gastrointestinal radiologists, I am sure, will continue unabated for the next decade. Nonetheless, studies such as Maglinte's in this journal once again bring focus on a major disease in the American population. It is one of the most frequent visceral malignancies and highest causes of death in this country, second only to lung cancer. Its etiologic factors are not well understood, and its distribution is equal among males and females. There is no clue such as smoking, alcohol use, or other factors leading one to a high

risk group. Of course, there are high risk individuals, such as those patients with longstanding ulcerative colitis, or patients with the familial polyposis syndromes, and certainly a small group of families are at high risk for colon malignancy. Most of the cases, however, are sporadic and distributed throughout all segments of the population.

A factor even more frightening than the changing distribution in the colon of this malignant process is its increasing occurrence in younger patients. Adenocarcinoma of the colon in the patient less than 50 seems to be a more virulent disease than the same histologic tumor in the older age group. As diverticulosis and other colon diseases change in their distribution with time, certainly the age process has changed as well.

What does this mean to the primary care physician? In these times of changing financial practice patterns, and with the efforts to be more economical in the application of medical care to our patients, large screening programs that are costly and unreliable in finding primary tumors will obviously be abandoned. Simple use of occult blood tests may well lead us to finding patients who are at risk. Nonetheless, even in this day, patients are seen with iron deficiency anemias who have no reason to have anemias, and many of those patients are not subjected to the usual colon cancer screening techniques. Only a heightened awareness among primary care physicians will lead to the discovery of early lesions, which are more liable to be cured surgically. There is no good chemotherapeutic or

---

The author is a Professor of Surgery, Indiana University School of Medicine, Indianapolis.

radiation treatment that will allow better survival once the disease spreads.

This report demonstrates that diseases change in frequency and distribution, and it points out clearly the need for more extensive study of those individuals with symptomatic colon problems. The use of occult hemocult testing of stool has not seemed to change the overall survival rates in rectal carcinoma over the past

---

The report by Dr. Maglinte, et al., appears on the next page.

---

several decades covered in the Maglinte study. Perhaps more public awareness and education of both physician and patient will allow more aggressive study of these patients with colonoscopy, double contrast colon

studies, or a combination of the two. Finally, even though 50% of rectal lesions are not discovered by the examining finger, a third of the lesions are palpable. In addition, stool samples are easily obtained in this fashion to check patients for the presence of occult blood. With vigorous investigation of all available patients, perhaps an impact will be made on this changing disease.



## **Progressive, in-patient treatment of anorexia and bulimia is as close as Grand Rapids.**

Located on quiet, landscaped grounds, the Eating Disorders Program at Forest View Psychiatric Hospital provides top quality care for persons seeking the intimacy of a small, private psychiatric hospital. *And, it currently ranks as the only one of its kind in West Michigan.*

The program features a treatment milieu that is thorough and professional, administered by an experienced and qualified staff. Programs are available for both adolescents and adults. And admissions are processed quickly, with referrals accepted 24 hours a day.

For complete information about the Eating Disorders Program at Forest View, contact the Director of Social Services. For quality care. That's also close to home.



### **FOREST VIEW PSYCHIATRIC HOSPITAL**

1055 Medical Park Drive, S.E.  
Grand Rapids, MI 49506  
(616) 942-9610

# Trends in Distribution of Colorectal Cancer at the Methodist Hospital of Indiana

## An Evaluation of 20 Years' Experience at a Community Hospital

DEAN D. T. MAGLINTE, M.D.<sup>1</sup>  
LEE G. JORDAN, M.D.<sup>2</sup>  
STANLEY M. CHERNISH, M.D.<sup>3</sup>  
KENNETH M. KELLER, M.D.<sup>4</sup>  
ANASTACIO C. NG, M.D.<sup>4</sup>  
GONZALO T. CHUA, M.D.<sup>4</sup>  
FREDERICK M. KELVIN, M.D.<sup>4</sup>

IT HAS BEEN emphasized in the past that approximately 50% of large bowel carcinomas are diagnosed by digital rectal examination and approximately 67-75% are diagnosed by rigid sigmoidoscopy.<sup>1,3</sup> However, recent reports suggest that there has been a change in the distribution of colorectal carcinomas.<sup>4,9</sup> This is an important consideration when developing a screening method for evaluating patients at risk for colorectal carcinoma. This report presents an evaluation of the changing distribution of colorectal carcinoma over the period of 1960-1979, as seen in the largest community hospital in Indiana. The diagnostic implications of this changing distribution and an overview of the various screening methods for detecting colorectal malignancy are presented.

### Materials and Methods

For this study, we included all cases of carcinoma of the colon and rectum diagnosed from January 1, 1960 through December 31, 1979 at the Methodist Hospital of Indiana. All colon carcinoma diagnoses were made after review of histologic sections. All specimens were obtained by endoscopic biopsy, surgery or at autopsy. Histology ranged from carcinoma in situ in polyps to invasive carcinoma in larger masses. There were a total of 2,298 consecutive carcinomas in 2,218 patients. The number of lesions found in each of six sites [rectum, sigmoid, descending colon, transverse colon (including flexures), ascending colon and cecum] were analyzed by year of diag-

nosis to detect any change in the pattern of colon tumor distribution. No attempt was made to correlate invasiveness, operability or prognosis with location. Twenty-six cases of cloacogenic carcinoma were included in the rectal carcinoma category. The total number of carcinomas diagnosed at each of these six sites in the 20-year period was then calculated.

### Results

The site distribution of the large bowel carcinomas is presented in *Table 1*. Seventy-seven patients (3.5%) had synchronous carcinomas. Over the 20-year period there was a definite change in the site distribution of colorectal carcinomas. The results were subjected to a chi-square analysis. The results indicate that there is a significant increase in the proportion of carcinomas located in the cecum and ascending colon during 1970-1979, and a corresponding decrease in the proportion of carcinomas in the rectum (*Fig. 1*). The distribution of lesions in the sigmoid, descending and transverse colon showed little change. The changing trend in distribution of rectal and right-sided colon lesions (cecum and ascending colon) is more apparent when the 1970-1979 data from Methodist Hospital are compared to 1937-1948 data from the Massachusetts General Hospital (*Fig. 2*).<sup>10</sup>

### Comments

Our analysis suggests that there has been a decrease in left-sided colonic and rectal carcinoma and an increase

<sup>1</sup>Depts. of Radiology, Methodist Hospital of Indiana and the Indiana University School of Medicine, Indianapolis.

<sup>2</sup>Dept. of Medicine (Gastroenterology), Methodist Hospital of Indiana.

<sup>3</sup>Consultant, Dept. of Medical Research, Methodist Hospital of Indiana, and Lilly Laboratories for Clinical Research, Indianapolis.

<sup>4</sup>Dept. of Radiology, Methodist Hospital of Indiana.

Supported by the Dept. of Medical Research, Methodist Hospital of Indiana.

Correspondence: Dean D. T. Maglinte, M.D., Dept. of Radiology, Methodist Hospital of Indiana, 1701 N. Senate Blvd., Indianapolis, Ind. 46202.

Acknowledgment: The authors thank Barbara Thomas, Methodist Hospital Tumor Registry, for data retrieval; Fran Shaul for secretarial assistance; and Diana Clark for help in manuscript preparation.



TABLE 1  
Spatial Distribution of  
Colon Carcinomas by Decade

Site	1960s	1970s
Cecum	85 ( 7.9%)	166 (13.5%)
Ascending Colon	70 ( 6.5%)	107 ( 8.7%)
Transverse Colon	145 (13.5%)	146 (11.9%)
Descending Colon	63 ( 5.9%)	87 ( 7.1%)
Sigmoid	293 (27.4%)	306 (24.9%)
Rectum	415 (38.8%)	415 (33.8%)
TOTAL:	1071 (100.0%)	1227 (99.9%)

TABLE 2  
Risk Factors for Colorectal Malignancy

Risk	Factors
High	Prior colon cancer or adenoma Inherited colon precancerous lesions: polyposis types Nonpolyposis types Ulcerative colitis > 7 years duration Female genital cancer
Average	Age 40 and older, men and women

in the number of right-side colonic malignancies over the last 50 years. The findings at the Methodist Hospital confirm other reports. The reason for this shift of malignant lesions in the large bowel is not known. Advances in tumor detection, such as the double-contrast barium enema and colonoscopy, may have contributed to this apparent shift simply by increasing the total number of right-sided lesions that

are diagnosed. The widespread use of the fiberoptic flexible sigmoidoscope and the removal of polyps in their early stages of growth may be responsible for the decrease in the number of rectal carcinomas.<sup>11</sup> While our results indicate an increase in the number of cecal and ascending colon lesions, it should be reemphasized that the majority of colon carcinomas still remains in the rectum and sigmoid, accounting for

59% of the lesions seen at Methodist Hospital.

What is the current state of screening for colorectal carcinoma and what is the role played by the various diagnostic modalities? On economic grounds, such expensive diagnostic methods as colonoscopy and the barium enema are not cost-effective for use in the general population. Screening must be based on risk.<sup>12</sup> The greater the

PERCENT COLON CARCINOMA PER DECADE  
AT THE METHODIST HOSPITAL OF INDIANA,  
INDIANAPOLIS

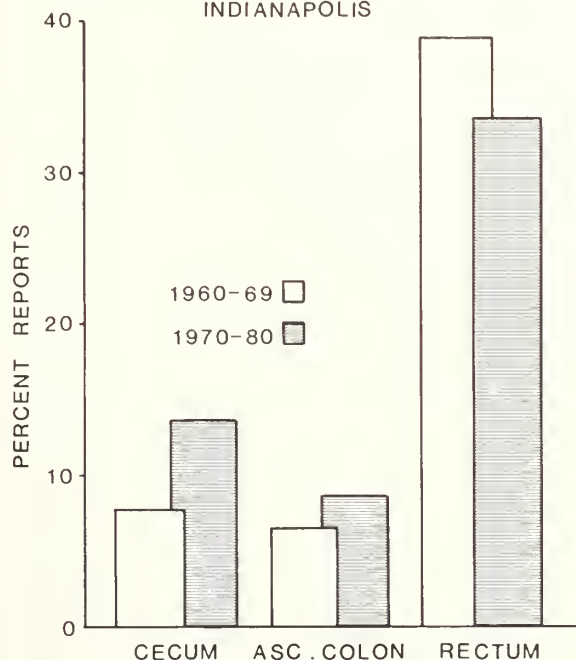


FIGURE 1

PERCENT CHANGE OF COLON CARCINOMA  
FROM 1937-1948 TO 1970-1979

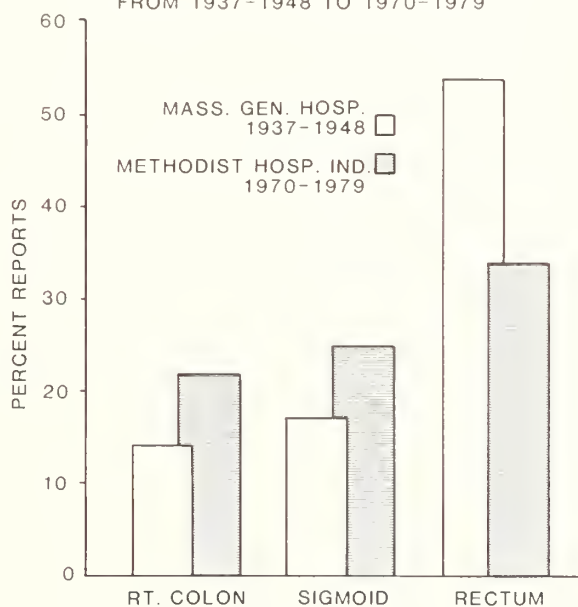


FIGURE 2

number of patients subjected to screening, the greater the effort and cost per case discovered. Risk for colorectal cancer can be divided into groups (Table 2). Once a patient is identified as a high-risk individual, immediate screening followed by long-term surveillance can increase the frequency of detection of early colorectal cancer.

What techniques are recommended for screening colorectal carcinoma, and when should they be used? Fecal occult blood testing (e.g., Hemoccult test) has its greatest application in the average risk patient.<sup>13</sup> More recently a new test for blood in the stool, HemoQuant, has been developed.<sup>14</sup> Preliminary results indicate HemoQuant to be more sensitive, with fewer false-negative and false-positive results, than the Hemoccult test. It measures heme-derived porphyrin and quantifies both total fecal hemoglobin and the fraction converted to porphyrin by the intestinal flora. These tests may be used as an interval examination in other high-risk groups between more aggressive approaches, such as the double-contrast barium enema and colonoscopy.<sup>12</sup> The fecal occult blood tests have no value in patients known to be predisposed to bleeding. These are patients with ulcerative colitis or premalignant lesions such as familial polyposis.

What is the status on the use of colonoscopy versus radiology in the evaluation of colorectal cancer? The roles of the double-contrast barium enema and endoscopy have been shown to be complementary.<sup>15-17</sup> The assumption that the radiologists cannot adequately evaluate the rectum and sigmoid is invalid.<sup>11</sup> This statement was made referring to comparison studies between endoscopy and the traditional single-contrast barium enema. Good quality double-contrast barium enema has been shown by recent studies to be as sensitive as rigid sigmoidoscopy in the detection of rectal carcinoma.<sup>18,19</sup> Both rigid and flexible proctosigmoidoscopy are useful screening procedures but the flexible endoscope is

more comfortable, can reach more areas in the colon, and can obtain a biopsy specimen. Rigid sigmoidoscopy is effective in the rectum but false-negative results are high in the sigmoid.<sup>20</sup> A critical look at studies comparing various imaging methods has shown that most studies purporting to show the diagnostic superiority of endoscopy over x-ray are scientifically not valid because of flaws in methodology.<sup>21</sup> Investigations in which the studies have been performed with equal skill have generally failed to show statistically significant differences in the efficacy of the two methods. An example is a widely quoted report by Wolff *et al.* concluding that colonoscopy is superior to the barium enema.<sup>22</sup> This study compared colonoscopy performed by noted authorities to barium enemas performed in an uncontrolled manner at various hospitals, and even by non-radiologists. However, it is becoming apparent that there may be little difference in efficacy between the double-contrast barium enema and colonoscopy for the detection of colonic neoplasms.<sup>17,23,24</sup> both studies being skill-related and subject to technical failures. A 1985 report from the Mayo Clinic has shown that barium studies are as effective as colonoscopy for the screening of polyps and cancer of the large bowel.<sup>25</sup>

The changing distribution of colorectal cancer and polyps emphasizes the need for a technique that is readily available, reproducible, inexpensive and accurate. The properly performed and interpreted double-contrast barium enema examination fulfills these criteria and can be used as a cost effective screening method for colorectal carcinomas in patients at high risk for carcinoma.<sup>26-28</sup> This is especially true since the entire large bowel is nearly always examined during one procedure, whereas the colonoscopist may not be able to visualize the entire colon.<sup>29</sup> Refinements in the double contrast barium enema technique (routine use of hypotonia, early rectal tube

removal and the use of carbon dioxide instead of room air) have made the modern double-contrast barium enema a well accepted procedure.<sup>30,31</sup> These considerations have led some authors to suggest the double-contrast barium enema as a practical screening method even in asymptomatic average-risk patients.<sup>32</sup>

Colorectal carcinoma is the most common visceral malignant neoplasm in this country and ranks as the second most common cause of cancer-related death each year.<sup>33</sup> It is potentially preventable by the removal of adenomatous polyps before they have undergone malignant transformation. Early detection by means of well-planned screening programs may decrease its mortality. Many mass screening programs have been attempted with varying rates of patient compliance and success in detecting early cancers. Because of the changing pattern of distribution of colorectal cancer as shown by this report, we recommend that the right side of the colon be examined more thoroughly. The widespread use of endoscopy and double-contrast techniques have not resulted in increased detection of early gastric cancer nor improved its dismal prognosis outside Japan.<sup>34</sup> However, aggressive screening for colorectal cancer appears justified because of its high incidence in this country and the high cure rate when found early.

## Summary and Conclusions

Our results confirm the reports of others that the incidence of neoplastic disease on the right side of the colon is increasing. This trend has been noted with both carcinoma and benign polyps.<sup>35</sup> The reasons for this change in distribution are unclear. What is understood is that for some risk groups, examination of the entire colon is necessary. Given present information, we feel that more colonic cancer can be detected at earlier and therefore more curable stages. We also feel that with the use of more aggressive screening and identification of patients at risk

we should be able to decrease the morbidity and mortality due to colon cancer. Even though most information suggests that this improvement in survival can be achieved, this has not yet been demonstrated. The costs per patient so benefited must also be considered. Studies are underway to help clarify these points.<sup>36</sup>

Patients who undergo screening for carcinoma of the large bowel require complete evaluation of the colon. Occult blood testing, when positive, should lead to radiographic and/or endoscopic evaluation. There is no consensus as to which approach should be adopted. Both double-contrast barium enema and total colonoscopy have their advocates. A more cost effective alternative approach is the combination of flexible sigmoidoscopy and double-contrast barium enema. This has the merit of providing two evaluations of the sigmoid colon (an occasionally difficult area for the radiologist to examine) and may therefore permit the radiologist to concentrate more on a careful examination of the right colon where neoplasms are becoming increasingly more frequent.

#### REFERENCES

1. Spiro HM: Tumors of the bowel—Carcinoma of the colon and rectum. In: Paulson M, ed. Gastroenterologic medicine. Philadelphia: Lea and Febiger, 998-1007, 1969.
2. Swinton NW, Counts RL: Cancer of the colon and rectum, statistical study, with end-results. *JAMA*, 161:1139-1142, 1956.
3. Rubin P: Cancer of the GI tract: Colon, rectum, anus. Introduction. *JAMA*, 231:513-16, 1975.
4. Morgenstern L, Lee SE: Spatial distribution of colonic carcinoma. *Arch Surg*, 113:1142-1143, 1978.
5. Rhodes JB, Holmes FF, Clark GM: Changing distribution of primary cancers in the large bowel. *JAMA*, 238:1641-1643, 1977.
6. Cady B, Persson AV, Monson DO, Maunz DL: Changing patterns of colorectal carcinoma. *Cancer*, 33:422-426, 1974.
7. Axtell LM, Chiazzie L: Changing relative frequency of cancers of the colon and rectum in the United States. *Cancer*, 19:750-754, 1966.
8. Snyder DN, Heston JF, Meigs JW, Flannery JT: Changes in site distribution of colorectal carcinoma in Connecticut, 1940-1973. *Am J Dig Dis*, 22:791-797, 1977.
9. Abrams JS, Reines HD: Increasing incidence of right sided lesions in colorectal cancer. *Am J Surg*, 137:522-526, 1979.
10. Welch CE, Giddings WP: Cancer of the colon and rectum: Observations on Massachusetts General Hospital cases, 1937-1948. *New Engl J Med*, 244:859-867, 1951.
11. Gilbertsen VA: Proctosigmoidoscopy and polypectomy in reducing the incidence of rectal cancer. *Cancer*, 34:936-939, 1974.
12. Winawer SJ, Miller DG: Introduction: Screening approaches based on risk. In: Winawer S, Schottenfeld D, Sherlock P, eds. Colorectal cancer, prevention, epidemiology and screening. New York: Raven Press, 159-165, 1980.
13. Winawer SJ, Fleisher M, Baldwin M, Sherlock P: Current status of fecal occult blood testing in screening for colorectal cancer. *Cancer J for Clinicians*, 32:100-112, 1982.
14. Ahlquist DA, McGill DB, Schwartz S, et al: HemoQuant, a new quantitative assay for fecal hemoglobin, comparison with HemoCult. *Ann Int Med*, 101:297-302, 1984.
15. Miller RE, Lehman G: Polypoid colonic lesions undetected by endoscopy. *Radiology*, 129:295-297, 1978.
16. Thoeni RF, Menuck L: Comparison of barium enema and colonoscopy in the detection of small colonic polyps. *Radiology*, 124:631-635, 1977.
17. Thoeni RF, Petras A: Double-contrast barium-enema examination and endoscopy in the detection of polypoid lesions in the cecum and ascending colon. *Radiology*, 144:257-260, 1982.
18. Evers K, Laufer I, Gordon FL, Kressel HY, Herlinger H, Gohel VK: Double-contrast enema examination for detection of rectal carcinoma. *Radiology*, 140:635-639, 1981.
19. Thoeni RF, Petras A: Detection of rectal and rectosigmoid lesions by double-contrast barium enema examination and sigmoidoscopy. *Radiology*, 142:59-62, 1982.
20. Winawer SJ, Leidner SD, Boyle C, Kurtz RC: Comparison of flexible sigmoidoscopy with other diagnostic techniques in the diagnosis of rectocolon neoplasia. *Dig Dis Sci*, 24:277-281, 1979.
21. Gelfand DW, Ott DJ: Methodologic considerations in comparing imaging methods. *AJR*, 144:1117-1121, 1985.
22. Wolff WI, Shinya H, Geffen A, et al: Comparison of colonoscopy and the contrast enema in 500 patients and colorectal disease. *Am J Surg*, 129:181-186, 1974.
23. Ott DJ, Gelfand DW, Wu WC, Kerr RM: Sensitivity of double contrast barium enema on polyps detection. *AJR*, 135:327-330, 1980.
24. Ott DJ, Gelfand DW, Ramquist NA: Causes of errors in gastrointestinal radiology. II. Barium enema examination. *Gastrointest Radiol*, 5:99-105, 1980.
25. Lewis BD, Carlson HC: Comparison of colonoscopy with single and double contrast barium enema in the detection of colonic polyps and cancer. Paper presented at the American Roentgen Ray Society, Boston, Massachusetts, April 1985.
26. Kelvin FM, Gardiner R, Vas W, Stevenson GW: Colorectal carcinomas missed on double contrast barium enema study: A problem in perception. *AJR*, 137:307-313, 1981.
27. Miller RE, Maglinte DDT: Barium pneumocolon: Technologist performed "7 pump" method. *AJR*, 139:1230-1232, 1982.
28. Maglinte DDT, Miller RE: Simplified barium pneumocolon examination. *Appl Radiol*, 12:93-98, 1983.
29. Knutson CO, Max MH: Diagnostic and therapeutic colonoscopy: A critical review of 662 examinations. *Arch Surg*, 114:430-435, 1979.
30. Maglinte DDT, Chernish SM, Lappas JC, Miller RE: Early rectal tube removal for improved patient tolerance during double-contrast barium enema examination. *Radiology*, 55:525-526, 1985.
31. Maglinte DDT, Miller RE: Salvaging the failed pneumocolon: A simple maneuver. *AJR*, 142:719-720, 1984.
32. Maglinte DDT, Keller KJ, Miller RE, Chernish SM: Colon and rectal carcinoma: Spatial distribution and detection. *Radiology*, 147:669-672, 1983.
33. Winawer SJ, Fleisher M, Baldwin M, et al: Current status of fecal occult blood testing in screening for colorectal cancer. *CA*, 32:100-112, 1982.
34. White RM, Levine MS, Enterline HT, Laufer I: Early gastric cancer: Recent experience. *Radiology*, 155:25-27, 1985.
35. Bernstein MA, Feezka PJ, Halpert RD, Simms SM, Ackerman LV: Distribution of colonic polyps: Increased incidence of proximal lesions in older patients. *Radiology*, 155:35-38, 1985.
36. Winawer S, Schottenfeld D, Sherlock P: Screening for colorectal cancer: The issues. *Gastroenterology*, 88:841-843, 1985.



# Management of the Incidentally Discovered Tuberculin Reactor

HENRY D. COVELLI, M.D.  
Anderson

## Abstract

The epidemiologic impact and clinical results obtained from detecting tuberculin reactors in a relatively young, randomly screened population is analyzed. Ninety percent of 2,104 tuberculin-positive patients were 16 to 35 years of age with conversion times unknown. Twenty-seven percent of this subgroup failed to report to the Preventive Medicine treatment facility for further evaluation, while 17% either had isoniazid (INH) therapy withdrawn or not initiated for medical reasons. Another 12% withdrew from the program before completion of six months of therapy. Only 52% of the eligible patients completed six months or greater of INH therapy.

Considerations of low therapeutic success rates in roentgenographically normal patients, decreasing compliance rates, INH side effects, random screening practices, and effective outpatient short course chemotherapy for active disease, questions the epidemiologic mandate to either screen or treat individuals at low risk for developing active *M. tuberculosis*.

From the Cardio-Pulmonary Service, Community Hospital of Anderson, Anderson, Ind. (The author was formerly Chief of the Pulmonary Disease Service, Madigan Army Medical Center, Tacoma, Wash.)

Correspondence: 1210 Medical Arts Blvd., Suite 102, Anderson, Ind. 46012.

THE CONTINUED DECLINE in the incidence of active tuberculosis among Americans,<sup>1</sup> coupled with more effective, shorter course, chemotherapy regimens<sup>2</sup> has stimulated a re-evaluation of the overall effectiveness and epidemiologic necessity of screening and treating positive tuberculin reactors in various subgroups of the U.S. population.<sup>3,4</sup> Although the epidemiologic importance of isoniazid prophylaxis for tuberculin positive patients has been stressed in a number of studies completed over the past two decades,<sup>5,6</sup> the overall clinical impact of the initial detection and subsequent therapeutic course has been recently evaluated in only one U.S. community.<sup>9</sup>

This study reviews our experience from the initial screening to the subsequent completion of therapy in a relatively young population with a high incidence of tuberculin positivity. An assessment of the clinical benefit to the patient as well as the overall epidemiologic value of this type of program is analyzed.

## Patients and Methods

The records of all adult patients identified as tuberculin-positive reactors and referred to the Preventive Medicine Clinic from 1977 through 1980 were continuously reviewed as part of an on-going study. The groups specifically screened included pregnant patients presenting to the Obstetric Clinic, food handling personnel, newly hired government employees, active duty personnel initially presenting to this facility and patients from the Internal Medicine and Family Practice Clinics who received routine tuberculosis screening as part of a medical data base. Hospitalized patients

detected as tuberculin-positive when presenting with an illness compatible with active tuberculosis were evaluated and treated by the Pulmonary Disease Service. Pediatric patients and patients with underlying disorders predisposing to a higher incidence of secondary tuberculosis were treated by specialty clinics.

The Mantoux test was administered and interpreted in the usual fashion.<sup>10</sup> Patients with greater than 10mm induration were further evaluated by the Preventive Medicine Service with a routine data base, including a chest roentgenogram, complete blood count with differential, urinalysis and liver and renal function tests. Roentgenograms were considered normal if lesions were limited to small multiple, or solitary calcifications or thickening of the apical pleura. Abnormal roentgenographic studies consisted of fibrotic lesions or alveolar infiltrates consistent with active tuberculosis. Patients with abnormal roentgenograms were further evaluated with three early morning induced sputums cultured for *M. tuberculosis*. The patient's past history of prior medical problems, specifically a history of liver disease, alcohol intake and prior drug reactions was recorded. Treatment was then initiated based on the recommendations of the American Thoracic Society.<sup>11</sup>

## Results

During this four-year period, approximately 50,000 intermediate PPDs were administered, identifying 2,104 tuberculin positive reactors. This subgroup included 158 patients over the age of 35 as well as 55 documented recent converters. The largest subgroup consisted of 1,891 patients 16 to 35 years old with either no docu-

mented prior tuberculin test or a history of a negative test greater than two years prior to detection. Forty of these patients had abnormal roentgenograms, with two cases of active M. tuberculosis ultimately being diagnosed. This compares with 84 unscreened patients diagnosed and treated for culture-positive tuberculosis in our hospital during the same period (Table 1).

Despite detection, only 1,387 (73%) were ultimately evaluated by the Preventive Medicine Clinic after direct referrals. A history of substantial alcohol intake or a past history of significant hepatic problems (i.e., hepatitis) prevented the physician from initiating preventive therapy in 166 or 12% of the evaluated patients. Twelve percent of the patients initially starting therapy withdrew from the program before receiving six months of isoniazid. The primary reason for withdrawal in this group was failure to comply with the burden of monthly clinic visits despite monthly education and follow-up by the Community Health Service. Another 5% or 70 patients did not receive six months of therapy due to side effects, primarily nausea, dizziness and elevated hepatic enzymes greater than three times baseline with a repeat drug trial and recurrence of the enzyme elevation (Table 2). Altogether, of the 1,946 PPD reactors who were 35 years old or less, only 1,044 patients or 53% ultimately completed greater than six months of INH therapy (Table 3). All patients transferred to another Preventive Medicine Clinic during this time were considered a therapeutic success.

Discussion

The objectives of tuberculosis screening and subsequent chemoprophylaxis are to prevent individual morbidity and decrease the potential for transmission of the disease. The strategy of surveying a particular population should depend on the incidence of the disease being surveyed and the effectiveness of therapy in

TABLE 1 Characteristics of the Study Population	
Newly identified tuberculin reactors	2,104
Recent converters (documented)	55
Age over 35 years	158
Age 16 to 35 years (unknown conversion time)	1,891
Chest radiograph abnormal	40
Active tuberculosis detected	2

TABLE 2 Reasons for Not Receiving Protective Chemoprophylaxis	
Patients not reporting despite referral	504/1891 (27%)
History of alcohol abuse or hepatitis	166/1387 (12%)
Adverse medication reaction	70/1387 (5%)
Withdrawal from program	162/1387 (11.7%)
Total not receiving chemoprophylaxis	902/1891 (48%)

TABLE 3 Patients (Ages 16-35) PPD Conversion Time Unknown	
Total cases	1,891
New cases evaluated	1,387 (73%)
Cases placed on INH	1,221 (65%)
Cases completing ≥ 6 months INH	989 (52%)
Reduction in population infectivity*	643 (34%)

\*Assumes a 65% reduction in active disease<sup>5</sup>

reducing both infection and transmission. The decision of who should or should not receive therapy thereby becomes an epidemiological one ultimately rendered to the individual patient.

The epidemiologic mandate to treat patients younger than 35 years of age with a positive PPD regardless of conversion time or without additional risk factors was suggested by the American Thoracic Society (ATS) in 1974.<sup>11</sup> These recommendations were based on the premise of a low-risk of hepatitis secondary to INH therapy, a therapeutic success rate of greater than 70%, and a significant impact on the spread of tuberculosis in the population treated.<sup>12</sup> Unfortunately, prior data were

obtained from populations which had a prevalence of infection and incidence of active disease that exceeds by ten-fold the rates noted in most American communities today.<sup>1</sup>

Although the issue of INH therapy may be debated as to the risk-benefit ratio<sup>3</sup> or on a cost-benefit analysis,<sup>13</sup> application of data from recent studies<sup>5,6,9</sup> to the population under surveillance provides further meaningful information.

The International Union Against Tuberculosis (IUAT) sponsored a controlled INH chemoprophylactic trial in 28,000 European tuberculin-positive persons with inactive fibrotic lung lesions.<sup>5</sup> The five-year incidence of culture-positive tuberculosis in the



52-week INH group with pulmonary lesions less than 2 cm<sup>2</sup> was 4.2 per 1,000 years of risk with patients receiving 12 months of INH having a reduction of 65% compared to the untreated group. However, the incidence of significant hepatitis was three per 1,000 treated cases in the age range of 20 to 34 years.<sup>14</sup>

The Veterans Administration Cooperative Study VII noted a reduction in active disease of 60% after one year of INH therapy.<sup>6</sup> Less than 2% of the control group developed active disease after seven years of follow-up.

Based on these data, cost-effective analysis would undoubtedly discourage such therapy. Treating 1,000 asymptomatic tuberculin reactors age 35 or less with one year of INH would result in the prevention of less than one case of active tuberculosis per year if initial chest roentgenograms were normal.<sup>5,15</sup> Certainly, the alternative of developing active disease and taking a nine-month course of two-drug therapy would appeal to many. The asymptomatic individual when confronted with these data would most likely elect not to be treated unless active disease intervened.

The most recent U.S. INH preventive therapy study was performed by Dash, *et al.* who analyzed the records from 15 Maryland County Health Departments over 4.5 years.<sup>9</sup> This study, as did ours, noticed the continued increase in the proportion of patients in the 15 to 35 year age group receiving therapy (43% of their entrants). The Centers for Disease Control (CDC) also recognized that this age group comprised over 60% of reported patients on preventive therapy.<sup>1</sup> The Maryland study noted that only 7% of the patients had abnormal chest roentgenograms while our data noted that 2% of the patients presented with abnormal chest films. This varies considerably from the data obtained in the IUAT study which included only participants with fibronodular changes on chest roentgenograms.<sup>5</sup> It was also noted in the Maryland study that, of a

total of 5,300 entrants, only 48% completed the recommended course of therapy. These data do not reflect the patients identified as tuberculin positive who did not enter a treatment program. Analysis of recent CDC data also reveals a steady decline in the percent of patients entering a treatment program who ultimately complete the recommended course of therapy.<sup>1</sup> In 1974, 79% of patients identified as converters completed therapy; however, by 1979 only 66% of the patients had completed their recommended course of therapy.

The epidemiologic mandate to render chemotherapy to an individual must also be based on factors other than the effectiveness of that therapy. The percent of patients who would ultimately become transmitters of the disease if not prophylactically treated is a significant consideration. Prior studies indicate that in the United States a contagious patient infects on the average of two or three persons per year.<sup>7</sup> Other studies have demonstrated up to 13 individuals may become infected by each active tuberculosis case.<sup>16</sup> Yet, less than 5% of the patients evolve from the infected to the active state.<sup>6,16</sup> However, this percentage may be considerably lower if the chest roentgenogram is normal.<sup>7</sup> One active case, therefore, would have to infect over 20 individuals if the disease were to be perpetuated.

The sum of factors relating the screening of a population, the subsequent completion of therapy, and the effectiveness of that therapy is expressed in Table 3. This assumes all patients in a specific area aged 18 to 35 years with a positive tuberculosis reaction were detected. Application of the data in Table 3 shows that the reduction in the infectivity of our patients was only 34%. This indicates little or no effect on the overall population in respect to disease transmission.

The continued low incidence of tuberculosis infection among the majority of groups in the United States has resulted in fewer cases of active

disease being detected by screening methods as opposed to self-referral.<sup>11</sup> We detected only two active cases in our program with 84 other active tuberculosis cases being diagnosed at our hospital after being evaluated for signs or symptoms compatible with active tuberculosis.

The ATS recently expressed the purpose of such screening as an effort to eliminate potential disease transmitters so that the transmission of tuberculosis infection may be prevented.<sup>17</sup> Although the guidelines for tuberculosis control measures and the priority of treating high-risk groups is well-outlined in this latest ATS statement, the best management of the incidentally discovered young adult with a positive tuberculin reaction remains unknown. A recent editorial suggests that asymptomatic individuals when identified should be treated.<sup>18</sup> However, this statement is based primarily on the data obtained from the IUAT study<sup>5</sup> which included primarily patients with "well-delineated radiographic lesions of probable tuberculous origin."

The continued decline in the percent of patients completing the recommended course of INH, coupled with the decline in the incidence and prevalence of both active tuberculosis and number of infected individuals, indicates the need to apply existing data in our approach to the management of these patients.

The current literature and our data suggest that the epidemiologic impact and personal benefit of offering chemoprophylaxis to tuberculin positive reactors of unknown duration is presently not great enough to justify its use in most sub-populations of this country. The organized screening and surveillance of such populations and individuals would therefore appear to be of little clinical benefit.

#### REFERENCES

1. Tuberculosis in the United States 1980. Atlanta: U.S. Department of Health and Human Services; Public Health Services; Centers for Disease



Control; Center for Prevention Services; Division of Tuberculosis Control. November 1983. (HHS Publication No. CDC) 83-8322.

2. Dutt AK, Stead WW: Short course treatment regimens for patients with tuberculosis. *Arch Intern Med*, 140:827-829, 1980.
3. Taylor WC, Aronson MD, Delbanco TL: Should young adults with a positive tuberculin test take isoniazid? *Ann Int Med*, 94:808-813, 1981.
4. Neumann III: Preventive chemotherapy for tuberculosis: A good thing overdone? *Conn Med*, 44:425-427, 1980.
5. Efficacy of various durations of isoniazid preventive therapy for tuberculosis: Five years of follow-up in the IUAT trial. *Bull. WHO*, 60:555-564, 1982.
6. Falk A, Fuchs GF: Prophylaxis with isoniazid in inactive tuberculosis.

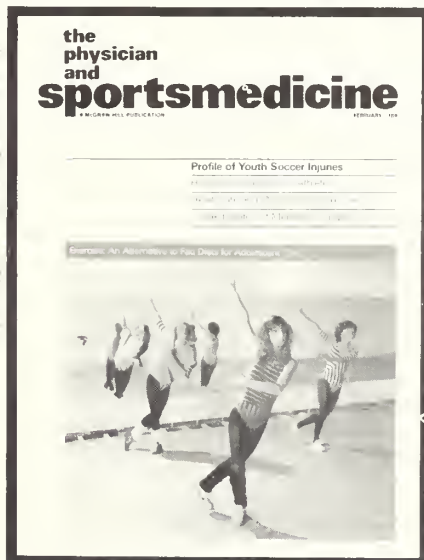
*Chest*, 73:44-48, 1978.

7. Johnston RF, Wildrick KII: State of the art review. The impact of chemotherapy on the care of patients with tuberculosis. *Am Rev Respir Dis*, 109:636-664, 1974.
8. Ferebee SH: Controlled chemoprophylaxis trials in tuberculosis: A general review. *Adv Tuberc Res*, 17:28-106, 1970.
9. Dash LA, Comstock GW, Flynn JP: Isoniazid preventive therapy: Retrospect and prospect. *Am Rev Respir Dis*, 121:1039-1044, 1980.
10. American Thoracic Society: The tuberculin skin test. *Am Rev Respir Dis*, 124:356-63, 1981.
11. Preventive therapy in tuberculous infection. *Am Rev Respir Dis*, 110:371-374, 1974.
12. Comstock GW, Woolpert SF, Baum C: Isoniazid prophylaxis among Alaskan eskimos: A progress report. *Am Rev*

*Respir Dis*, 110:195-197, 1974.

13. Moulding T: Chemoprophylaxis of tuberculosis: When is the benefit worth the risk and cost? *Ann Intern Med*, 74:761-770, 1971.
14. Riska N: Hepatitis cases in isoniazid treated groups and in a control group. *Bulletin of the International Union Against TB*, 51:203-207, 1976.
15. Comstock GW, Edwards PQ: The competing risks of tuberculosis and hepatitis for adult tuberculin reactors. *Am Rev Respir Dis*, 111:573-577, 1975.
16. Rouillon A, Perdrietz S, Parrot R: Transmission of tubercle bacilli: The effects of chemotherapy. *Tubercle*, 57:275-299, 1976.
17. Control of tuberculosis. *Am Rev Respir Dis*, 128:336-342, 1983.
18. Comstock GW: New data on preventive treatment with isoniazid. *Ann Int Med*, 98:663-665, 1983.

# OVER 66,000 FAMILY PHYSICIANS READ THIS JOURNAL



## Practical information on the medical aspects of fitness and exercise.

Tennis elbow: Joint resolution by conservative treatment.

Hypertrophic cardiomyopathy and the athlete.

Effects of sunscreen use during exercise in the heat.

Overuse injuries to the knee in runners.

How I manage ingrown toenails.



# Indiana Radiographers: Manpower Assessment

ROBERT W. HOLDEN, M.D.<sup>1</sup>

GLENN A. JANNSEN, R.T.<sup>2</sup>

LARRY L. STACKHOUSE, R.T.<sup>2</sup>

JESSICA A. MANSON, M.B.A.<sup>3</sup>

ROBERT D. SLABAUGH, M.D.<sup>1</sup>

GORDON C. MCLAUGHLIN, M.D.<sup>1</sup>

RANDALL J. LUCKEY, B.S., R.T.<sup>2</sup>

**R**EPRESENTATIVES FROM the Indiana Roentgen Society, Indiana Hospital Association, and the Indiana Society of Radiologic Technology audited current manpower resources and studied the present manpower needs for radiology technologists in the state of Indiana. There was a feeling on the part of the participating organizations that a surplus of technologists exists in Indiana.

The marketplace for radiologic technologists is very diverse and predicts an almost impossible task of obtaining an accurate data base for the determination of manpower needs. Assuming this, the committee developed a questionnaire to be completed by directors of radiologic technology training programs in the state of Indiana. Additionally, a survey of Indiana hospitals in the spring of 1985 assessed their need for radiographers. These findings and future implications are discussed in this report.

<sup>1</sup>Indiana Roentgen Society

<sup>2</sup>Indiana Society of Radiologic Technology

<sup>3</sup>Indiana Hospital Association

Address correspondence to: Robert W. Holden, M.D., Department of Radiology, Wishard Memorial Hospital, 1001-W. 10th St., Indianapolis, Ind. 46202.

## Training Programs Survey

Survey forms were mailed to the program directors of the 22 Indiana programs accredited by the Joint Review Committee on Education in Radiologic Technology. An 86.4% response was received by the deadline and the remaining 13.6% were surveyed by telephone. College level/Associate Science (A.S.) Degree Programs comprise 31.8% (7/22) of the total; however, these programs have 54.0% of the certified student positions. Hospital based/Certificate programs comprise 68.2% (15/22) of the total and have 46.0% of the total students. The total accredited student positions (April 1985) is 322; however, actual enrollment figures show only 80.7% (1983) and 71.1% (1984) of total positions available are being filled. *Table 1* describes the technology student enrollment and graduate data. Of the enrolled students, 75.8% are graduating (64.8% A.S. Degree and 87.8% Certificate). The schools report 97% of their graduates pass the American Registry of Radiology Technology certifying examination (98% Certificate & 96% A.S. Degree).

All of the programs surveyed denied any anticipated increase in enrollment over the next few years. Most (82%) indicated a strong probability of further decreases in enrollment, with only 18% (small Certificate programs) planning to maintain present enrollments. The schools reported the following reasons for decreasing enrollment: decreasing clinical workloads as an effect of DRGs, decreasing job market and employment opportunities, increasing cost of program operation, poorer quality of applicants, and increasing school and hospital administrative pressure.

*Table 2* describes the 1983 geographic distribution of the 250 enrolled students and active programs in Indiana. Approximately 190 students were graduated in 1985.

The survey also asked the program directors about their students' plans following graduation. Approximately 74.0% of the students will seek employment in Indiana; 12% will seek employment out of state; and 14% will continue their education or remain unemployed for personal reasons. To the specific question of the number of recent graduates out of work, the program directors related approximately 6% of their graduates were unemployed at the time of the survey. *Table 3* tabulates the results of the survey which asked the directors where their last two classes' graduates were working.

## Indiana Hospital Survey

A survey of Indiana hospitals (Spring 1985) asked the number of radiographers employed and the number of full-time and part-time technologists they would hire if available. A total of 98 responses were received, of which 90 were general and special hospitals. The hospitals responding represent 72.6% (90/124) of all general and special hospitals in Indiana. The remaining eight responses were from various, non-hospital institutions including nursing homes, public health departments, and correctional institutions.

The 98 institutions reported 1,100 radiographers employed, 870 (79.1%) full-time and 230 (20.9%) part-time. The hospital responses indicated a need for 35 full-time and 12 part-time technologists. Of the 47 openings, the largest area of need was in the greater India-

napolis area with 13 (37.1%) positions.

### Discussion

A conjoint committee of the American College of Radiology and the American Society of Radiologic Technologists reported in 1977 the following employment history of 1976 graduates. The training institution or training affiliates employed 33%, other local institutions 26%, another 25% remained in the state, 10% moved outside the state, and 6% were unemployed. The 6% unemployment is exactly the same as that reported in our survey and does not seem unreasonable. While the data are reported in a different way, it seems there is no significant change in the mobility of new graduates.

This same report relates women make up 75% of the technology graduates with an anticipated professional attrition rate of graduates approximating 12% in five years. When asked the reason for leaving the profession, the most common cause given was family commitments (59%). A distant second cause was inadequate salary (14%) followed closely by dislike of the profession and or job (11%) and a desire to continue their education (11%).

Currently, Indiana state law requires registration and inspection of all radiation emitting devices and certification of all medical diagnostic radiation equipment operators by the Indiana State Board of Health (ISBH). As of March 1985, the ISBH had registered 8,200 pieces of equipment at the following locations: 2,000 in hospitals, 6,000 in non-hospital medical applications, and 200 in non-medical applications. The ISBH had certified 5,609 radiographers in the following areas: General 2,884, Limited General 453, Podiatric 122, Chiropractic 53, Limited Chest 29, and Dental 2,068.

### Summary

Our survey shows little appreciable change in the manpower status of radiologic technology as compared to the previously quoted national survey

TABLE 1 Enrollment/Graduate Data				
	Enrolled		Graduated	
Hospital/Certificate (149)	1980	137	1982	121
	1981	121	1983	108
	1982	121	1984	103
	1983	118	1985	98
	1984	98	1986	88*
	1985	96	1987	86*
College/A.S. Degree (173)	1980	123	1982	88
	1981	113	1983	75
	1982	135	1984	86
	1983	142	1985	86
	1984	131	1986	83*
	1985	124	1987	80*
*estimated				

TABLE 2 Geographic Distribution								
	Students				Programs			
	West	Cent.	East	Total	West	Cent.	East	Total
North	47	19	20	34.4%	03	02	03	36.3%
Central	17	87	25	51.6%	01	06	03	45.4%
South	30	0	05	14.0%	03	00	01	18.2%

TABLE 3 Employment					
Year	Hospital	Clinic	Urgent Care	Radiology Office	Other
1983	67.5%	17.1%	4.6%	4.6%	6.2%
1984	57.9%	17.2%	13.6%	6.3%	5.0%

of 1976. This equilibration of supply and demand in Indiana has seemingly been accomplished by a reduction in filled training positions. The committee senses a significant problem in the future. The recent implementation of prospective pricing legislation in health care delivery may force closure of the small hospital-based programs. These programs, a source of approximately 50% of state technology graduates, may have difficulty in providing cost justification. In the current health care

environment, hospital administration will increasingly require fiscal responsibility. They will be less understanding of the intangible benefits such as manpower availability and educational environment, and may not allow the continued existence of technologist training programs. Any further decrease in the number of trained graduates may disrupt what is currently felt to be a wholesome equilibrium of supply and demand.



# Exploding the Mayonnaise Myth

## A Few Do's and Don'ts for Summer Picnic Buffs

**W**ITH THE FIRST HINT of spring in the air, Americans head for the outdoors. Outdoor activity includes eating al fresco—snacks at the beach, sandwiches for a hike in the woods, or a backyard picnic.

Fun in the sun requires certain precautions to avoid discomfort from overexposure. Summer food preparation and service also require precautions, to keep food safe, good tasting and good for you.

Proper food handling is critical: many low acid foods, such as chicken, ham, eggs or potatoes used for summer salads or sandwiches are very susceptible to the growth of bacteria, and mishandling can create a perfect medium for bacterial growth.

What about the mayonnaise? Contrary to the "old wives' tale," it simply isn't true that commercial mayonnaise or salad dressing can cause food poisoning. Some people may still believe this kitchen myth, but scientific research actually supports the opposite conclusion—that commercial salad dressings actually help *protect* against food contamination.

Commercial dressings are carefully formulated for more than just good taste. The vinegar and lemon juice used to give them zest also provide a strictly regulated acid level that inhibits the growth of the kind of bacteria that cause food poisoning. In fact, recent university studies have shown that commercial mayonnaise presents an environment in which harmful bacteria not only *can't grow*, they *can't even survive*.

From the Association for Dressings and Sauces, 5775 Peachtree-Dunwoody Road, Suite 500-D, Atlanta, Ga. 30342.



Salad, strawberries and cream—summer's near!

The impressive safety history of commercial salad dressings bear this out. No technical or scientific journal has ever reported a case of food poisoning directly attributed to eating mayonnaise or salad dressing. Cases of food poisoning from salad consumption have always been traced back to bacteria in the other salad ingredients.

To make sure summer foods are fresh and wholesome:

- Be sure all salad ingredients are fresh and clean and have been properly washed and refrigerated. Open canned ingredients, such as tuna, just before the salad is mixed.

- Add mayonnaise to sandwiches or salads as early as possible. Don't hold it separately until the last minute.

- Salads containing meat, poultry, potatoes or eggs should not stand at

room temperature for longer than two hours. So for buffets or picnics, put out only what you need, when you need it, and keep the rest cold. The U.S. Department of Agriculture recommends that prepared foods such as salads be kept below 40° F.

One final point to remember—most commercial dressings (with the exception of those bought from a refrigerated display case) are perfectly safe stored at room temperature. The words "Refrigerate After Opening" on the label are intended only to help preserve their taste, aroma and appearance. They do not relate to spoilage. If an already-opened jar of salad dressing is inadvertently left out for several hours, don't throw it away. There is no danger of it spoiling... it just may not taste as fresh.

# AMERICAN MEDICAL INTERNATIONAL'S PHYSICIAN PLACEMENT SERVICE

*American Medical International* has instituted a new corporate service to assist Physicians interested in solo or group practice opportunities servicing AMI hospitals. Current opportunities are available for physicians who are Board Certified or Eligible. Specific areas of interest are:

- Allergist
- Anesthesiologist
- Cardiologist
- ENT
- Emergency Medicine
- Family Practice
- Gastroenterologist
- General Practice
- General Surgeon
- Geriatric Medicine
- Industrial Medicine
- Oncologist - Medical and GYN
- Neurologist
- Neurosurgeon
- OB/GYN
- Ophthalmologist
- Orthopedic Surgeon
- Pediatrician
- Plastic Surgeon
- Radiologist
- Rheumatologist
- Thoracic Surgeon

Physicians interested in pursuing opportunities with AMI should contact this service by calling or submitting a curriculum vitae to:

Norman Penick  
Vice President  
Human Resources  
AMI  
9465 Wilshire Blvd., Ste. 915  
Beverly Hills, CA 90212  
(213) 858-6927  
National (800) 533-7013  
California (800) 325-4881



Please copy and distribute to each doctor's mail box in your hospital.

# BUSINESS IN MEDICINE

Political-Economic, Medical-Legal and Negotiating Seminars

May 16-19,'86 - Chicago

Nov. 6-9,'86 - San Diego

For: • Physicians • Residents • Managers

Chicago Keynote: William Rial, M.D., Past President (1982-83), A.M.A.

## OBJECTIVES:

- Understand current political effects on medical practice
- Improve quality assurance and risk management
- Develop cost-effective patient and practice management

## METHODS:

- Pre-seminar basic background papers
- Seminar with lectures, panels, and workshops
- Post-seminar published proceedings and tapes

*"Excellent weekend meeting ..."*

*"... well designed educational course."*

### FRIDAY, MAY 16

#### Registration Reception

### SATURDAY, MAY 17

**Government in Medicine 8:30 - 12:00**  
HEALTH CARE IN THE 1990'S  
FEE FREEZE AND ASSIGNMENT  
HOSPITAL AND PHYSICIAN DRG'S  
GRAMM-RUDMANN EFFECTS

**Business in Medicine 1:00 - 4:30**  
UNDERSTANDING THE BLUES  
IPA's, PPO's and HMO's  
HOSPITAL-MEDICINE INC.'S  
JOINT VENTURES

**Concurrent Workshops 4:45 - 6:00**  
LEGISLATIVE UPDATE  
REGULATORY UPDATE  
EVOLVING PRACTICE PATTERNS

**Negotiating Technique 7:30 - 9:00**

### SUNDAY, MAY 18

**Medical-Legal Issues 8:30 - 12:00**  
MALPRACTICE  
STAFF ORGANIZATION  
SOCIETIES AND UNIONS  
TRUSTS AND ANTITRUST

**Afternoon Workshops 1:00 - 5:00**  
COST-EFFECTIVE PREVENTION  
PHYSICIAN CONTRACTS  
TORT REFORM  
PEER REVIEW FUTURE

**Negotiating Critique 7:30 - 9:00**

### MONDAY, MAY 19

**Concurrent Workshops 8:30 - 12:00**  
PROFESSIONAL LIABILITY  
NEGOTIATING PARTICIPATION

**Concurrent Workshops 1:00 - 4:30**  
IPA/HMO ORGANIZING/MANAGING  
NEGOTIATING WITH HOSPITALS

*"The faculty was well versed...material presented was mostly new"*

**Peter Bouxsein, J.D.**

Counsel, Subcommittee on Health and Environment, U.S. House of Representatives

**Alfred Clementi, M.D.**

Chairman of Board, Ill. State Medical Society  
Director, Ill. State Medical Insurance Services

**Jerry Clousson, J.D., L.L.M.**

President, Physician Support Services, Inc.  
Former Director, A.M.A. Dept. of Negotiation

**George Collentine, M.D.**

Medical Director, Compucare of Wisconsin  
Assoc. Clinical Professor of Surgery, M.C.O.W.

**Richard J. Daley, J.D.**

Partner, Pierce Daley Baffes & O'Sullivan

**Jim Dechene, J.D., Ph.D.**

Associate, Sidley & Austin, Chicago

**Thomas Dehn, M.D.**

Pres., American Medical Peer Review Assoc.

**Barbara Gagle**

Regional Administrator, Chicago  
Health Care Financing Administration

**Robert A. Go**

Partner, Touche Ross & Co., Detroit  
National Health Care Industry Director

**Richard King, J.D.**

Assoc. Exec. Director and General Counsel  
Indiana State Medical Association

**Edward Lichter, M.D.**

Chairman, Prev. Medicine and Community  
Health, U. of Illinois College of Med. at Chicago

**Philip G. Lindner**

Partner, Arthur Anderson & Co., Chicago

**Paul S. Mannweiler, J.D.**

Majority Whip, Indiana House of Representatives  
Author, 1985 Malpractice Amendments

**William Rial, M.D.**

Exec. Director, Health Benefits Management  
Blue Cross and Blue Shield Association  
Past President (1982-83), A.M.A.

**Terry Tottenham, M.D.**

Partner, Fulbright & Jaworski, Houston  
Chairman, Med. and Law Committee, A.B.A.

**Walter Wood, M.D.**

Chairman, Community and Family Medicine  
Loyola University of Chicago

**Quentin Young, M.D.**

Pres., Health and Med. Policy Research Group  
Clin. Prof., P. Med. & Comm. Health, U. of Ill.

**William B. Zeiler, M.D.**

Pres., Clinical Pathology Facility, Pittsburgh  
Vice Pres., College of American Pathologists

*"The conference facility was comfortable"*

**LOCATION:** The Arlington Park Hilton, Euclid Ave. and Rohlwing Rd., Arlington Heights, Illinois, offers group discount rates, free guest parking and complimentary transportation from the American Airlines baggage claim area at O'Hare.

**C.M.E. CREDIT:** Loyola University of Chicago designates this program for 23 hours in Category I of the A.M.A.-Physician's Recognition Award.

*"...an excellent buy for the money."*

**FEES:** Registration \$90 or \$60/day (see below) includes background papers and lecture notes but not lodging, meals, proceedings or tapes.

**INFORMATION:** (812) 299-5658

*"...every practitioner should attend"*

*\* Comments by previous participants*

## Cut and Mail Today to BUSINESS IN MEDICINE

1094 Dawn Lane, Terre Haute, IN 47802

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_

State/Zip \_\_\_\_\_

Specialty \_\_\_\_\_

Affiliation \_\_\_\_\_

Phone ( ) \_\_\_\_\_ ( ) \_\_\_\_\_

(home) (office)

**Fees:** ☐ Physician ☐ Resident

☐ Manager ☐ Fellow

☐ May 16-18: \$180 \$120 \_\_\_\_\_

☐ May 19 \$ 90 \$ 60 \_\_\_\_\_

☐ Check to Business in Medicine \_\_\_\_\_

**Arlington Park Hilton Reservation:**

☐ Single (\$57.00) ☐ Double (\$77.00)

with \_\_\_\_\_

(if no name, a room mate will be assigned if possible or single room rate will be charged)

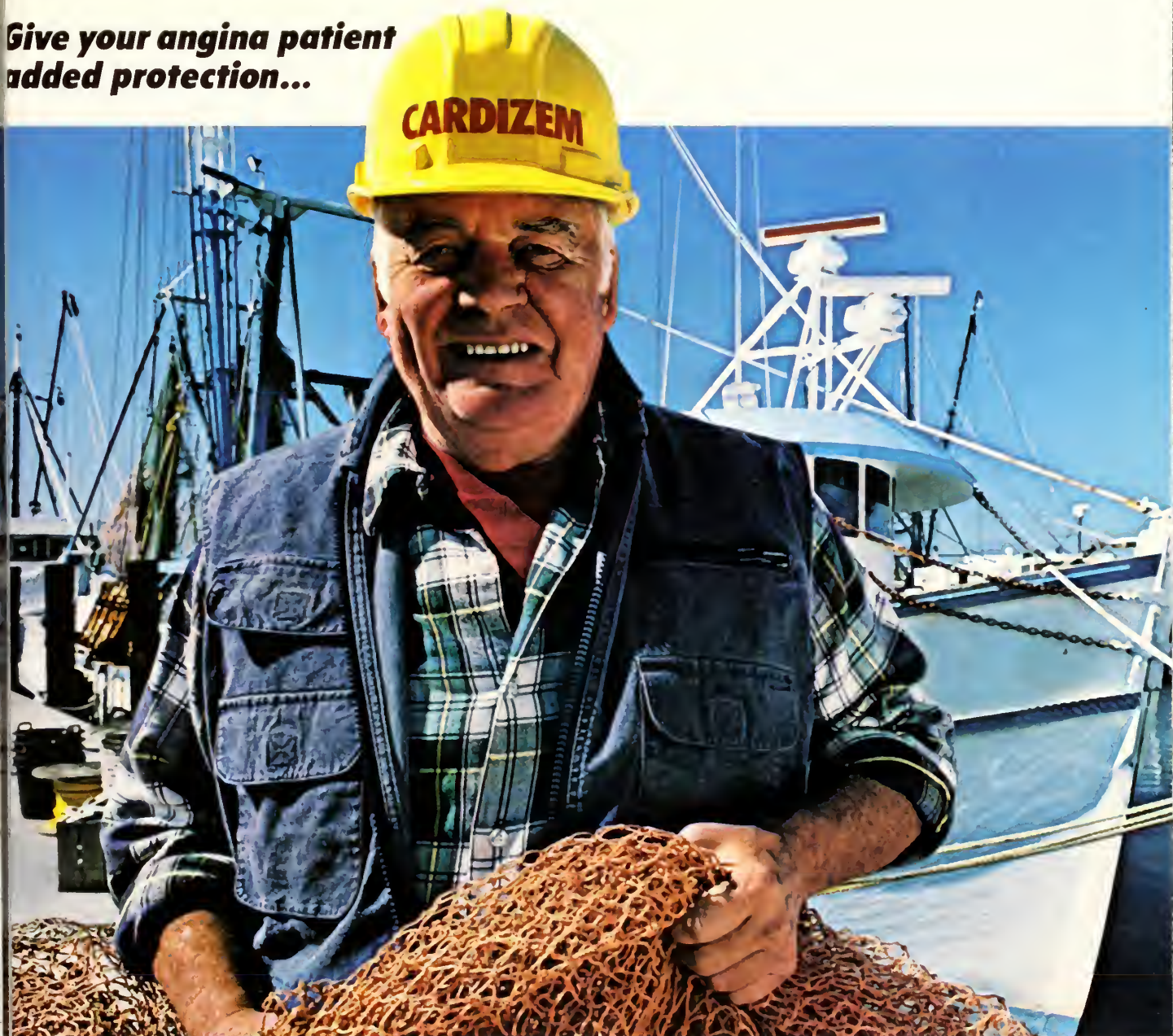
☐ Male ☐ Female ☐ Non-Smoker

arriving May \_\_\_\_\_, '86; departing May \_\_\_\_\_, '86

☐ No room needed (add \$8/day to fees)



**Give your angina patient  
added protection...**



## **CARDIZEM<sup>®</sup>: FEWER SIDE EFFECTS**

diltiazem HCl/Marion

- **The lowest incidence of side effects among the calcium channel blockers<sup>1</sup>**
- **An exceptionally safe choice for angina patients with coexisting hypertension, diabetes, asthma, or COPD<sup>1-3</sup>**
- **Proven efficacy when used alone in angina<sup>1, 4-6</sup>**
- **Compatible with both beta-blockers and nitrates<sup>7</sup>**

*Please see brief summary of prescribing information on the next page.*





# CARDIZEM<sup>®</sup> 60 mg tid or qid

## diltiazem HCl/Marion

### FEWER SIDE EFFECTS IN ANTIANGINAL THERAPY

#### BRIEF SUMMARY

CARDIZEM<sup>®</sup> (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist).

#### INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).

2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

#### CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker; (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker; and (3) patients with hypotension (less than 90 mm Hg systolic).

#### WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.

2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.

3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.

4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS AND ADVERSE REACTIONS.)

#### PRECAUTIONS

**General.** CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes, however, these changes were reversible with continued dosing.

**Drug Interaction.** Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy

volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

**Carcinogenesis, Mutagenesis, Impairment of Fertility.** A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in *in vitro* bacterial tests. No intrinsic effect on fertility was observed in rats.

**Pregnancy.** Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM (diltiazem hydrochloride) in pregnant women only if the potential benefit justifies the potential risk to the fetus.

**Nursing Mothers.** It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

**Pediatric Use.** Safety and effectiveness in children have not been established.

#### ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence:

Cardiovascular	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope
Nervous System	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia
Gastrointestinal	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGPT, SGPT, and LDH
Dermatologic	Pruritus, petechiae, urticaria, photosensitivity
Other	Polyuria, nocturia

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme, leukopenia, and extreme elevations of alkaline phosphatase, SGPT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

#### OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg) if there is no response to vagal blockade, administer isoproterenol cautiously
-------------	---

High-Degree AV Block

Cardiac Failure

Hypotension

Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing. Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics. Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral LD<sub>50</sub>'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD<sub>50</sub>'s in these species were 60 and 38 mg/kg, respectively. The oral LD<sub>50</sub> in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

#### DOSSAGE AND ADMINISTRATION

**Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm.** Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

#### Concomitant Use With Other Antianginal Agents

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy** — CARDIZEM may be safely co-administered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers** (See WARNINGS and PRECAUTIONS.)

#### HOW SUPPLIED

CARDIZEM 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Packs of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Packs of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other. Issued 4/1/84.

See complete Professional Use Information before prescribing.

064275

**References:** 1. *Physicians' Desk Reference*, ed 39, Drazell, NJ, Medical Economics Company Inc, 1985. 2. Cohn PF, Braunwald E. Chronic ischemic heart disease, in Braunwald E (ed) *Heart Disease: A Textbook of Cardiovascular Medicine*, ed 2, Philadelphia, WB Saunders Co, 1984, chap 39. 3. Schroeder JS. Calcium and beta blockers in ischemic heart disease. When to use which. *Mod Med* 1982; 50(Sept):94-116. 4. Subramanian VB. Comparative evaluation of four calcium antagonists and propranolol with placebo in patients with chronic stable angina. *Cardiovasc Rev Rep* 1984; 5:91-104. 5. Schroeder JS, Feldman RL, Giles TD, et al. Multicentric controlled trial of diltiazem for Prinzmetal's angina. *Am J Med* 1982; 72:227-231. 6. Weiner DA, McCabe CH, Cutler SS, et al. The efficacy and safety of high-dose verapamil and diltiazem in the long-term treatment of stable exertional angina. *Clin Cardiol* 1985; 7:648-653. 7. Shapiro W. Calcium channel blockers. Actions on the heart and uses in ischemic heart disease. *Consultant* 1984; 24(Dec):150-159.

Another patient benefit product from

**MARION**  
LABORATORIES, INC.  
KANSAS CITY, MO 64137

# Physician-Patient Confidentiality

## Legal Etiology and Ramifications

---

ROBERT J. SHULA, J.D.  
Indianapolis

---

### Many Options Are Available to Physicians Who Are Faced with Troublesome Disclosure Questions . . .

The author is a senior partner in the Indianapolis law firm of Bingham Summers Welsh & Spilman. He has concentrated his practice in the last 20 years to the defense of medical malpractice lawsuits. Mr. Shula has lectured to several different departments of the Indiana University School of Medicine.

A copy of the references related to this article is available from INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis, Ind. 46208.

Correspondence: Robert J. Shula, J.D., 2700 Indiana Tower, One Indiana Square, Indianapolis, Ind. 46204.

**F**OR CENTURIES man has recognized the need to maintain the confidentiality of physician-patient communications. The Hippocratic Oath provides: "Whatever, in connection with my professional practice, or not in connection with it, I see or hear, in the life of men, which ought not be spoken of abroad, I will not divulge as reckoning that all such should be kept secret." Attempts have been made by the American Medical Association and others in the medical profession to clarify the physician's obligation toward protection of confidentiality. However, much confusion still remains and many practitioners are looking to their attorneys for guidance in dealing with the disclosure questions that can arise in the day-to-day practice of medicine.

#### Privilege

In Indiana, as in most states, there is a statute which recognizes the need for confidentiality in physician-patient communications. That statute provides that: Physicians are not competent witnesses as to matters communicated to them by patients in the course of their professional business or as to advice given in such cases.<sup>1</sup>

This right to protection from the forced disclosure of such confidential communications is referred to as "privilege." Privilege concerns itself with testimony which is prohibited for reasons of public policy. The primary rationale for the physician-patient privilege is to encourage a patient to seek medical treatment without fear of his condition being disclosed to third parties. The confidence which is protected is only that which is given to the

physician during a consultation with a view toward curative treatment.

The privilege which this statute creates exists for the benefit of the patient and may be waived by the patient either expressly or by implication. The most common form of waiver is the initiation of a lawsuit by the patient. The Indiana Supreme Court has held that when a party-patient makes his mental or physical condition the subject of a lawsuit, he waives the confidentiality privilege as to any matters respecting the health or physical condition put into issue.<sup>2</sup>

#### Discovery

To prepare or defend a case involving personal injury, an attorney must be familiar with the injured party's medical history. Discovery is the legal process whereby each party is able to secure certain information in the possession of the opposing party, and others, which is necessary in the preparation of a case.

In general, parties may obtain discovery regarding any matter, not privileged, which is relevant or appears reasonably calculated to lead to the discovery of relevant material.<sup>3</sup> Necessarily, doctors are involved in discovery procedures. However, when faced with a subpoena for medical records or to appear at trial, many physicians are unaware of their legal rights and obligations.

#### Medical Records

Since by filing a lawsuit a patient voluntarily waives his privilege as to the condition which is the subject of the lawsuit, a patient's attorney is generally cooperative in providing the oppos-



ing counsel with copies of the patient's medical records. Oftentimes, these exchanges are accomplished through the use of a medical authorization form signed by the patient, which instructs the physician to release the patient's records to the opposing counsel.

Occasionally, a patient or his attorney may assert the physician-patient privilege and refuse to voluntarily provide the opposing counsel with copies of the patient's medical records or an authorization form signed by the patient. In this case, to obtain the patient's records, the opposing counsel must file a legal document with the court requesting that the physician produce the patient's medical records for inspection and copying.<sup>4</sup>

This request must set forth the items to be inspected and copied and must specify a reasonable time and place for conducting this inspection. Accompanying this request will be a subpoena duces tecum. A subpoena duces tecum is a special form of subpoena sent to individuals who are not a party to the legal action, directing them to produce books, papers, documents or other tangible things designated on the subpoena.

Generally, the physician must produce the requested records within 30 days of receipt of the request. Should the physician fail to respond within the time specified, the requesting party may move the court to issue an order compelling the physician to obey the request.<sup>5</sup>

Usually, through this discovery procedure, an attorney is able to secure those records necessary for the preparation and defense of a case with little protest from or inconvenience to the physician. A problem can arise, however, when there is certain information contained in the patient's record which the physician feels is irrelevant to the subject matter of the lawsuit and if released may embarrass or in some way harm the patient. Unaware of the legal sanctions which may be imposed for noncompliance with discovery, a physician may inten-

tionally withhold or refuse to release sensitive portions of the requested medical records. Fortunately, the law provides a variety of means for physicians to limit the scope of discovery of a patient's records without subjecting themselves to legal sanctions.

The physician has the right to object generally to the request for production of medical records or specifically to a certain item or piece of information listed in the request.<sup>6</sup> Any objection is required to be in writing and must be filed with the court and served upon the party making the request. When the physician is concerned with the confidential or sensitive nature of certain information contained in the patient's file, the objection may be on the ground that the information is privileged and/or not relevant to the injury at issue.

The physician also has a right to file with the court a motion to "quash" (make void) or modify the terms of the subpoena duces tecum.<sup>7</sup> This motion is generally made when producing the records in the time, manner, or form requested is inconvenient to the physician.

A third alternative available to the physician is to petition the court for a protective order or an *in camera* (in chambers) review of the records requested.<sup>8</sup> The ground for such a petition may be that the information requested is privileged or may harm or be a source of undue embarrassment to the patient if released. If the motion is granted, the medical records are turned over to the court for a determination of what material is relevant, not privileged and, therefore, discoverable by the counsel adverse to the patient.

What a physician may *not* do is ignore a subpoena duces tecum or request for production of medical records. If a physician has questions regarding the relevancy and confidentiality of material contained in a patient's file which he has been requested to produce, he should consult his attorney. Because physicians may be subject to

legal sanctions for failure to comply with discovery, it is unwise for a practitioner to attempt to determine himself what is relevant or discoverable.

#### Deposition upon Oral Examination<sup>9</sup>

A deposition is a discovery device by which one party asks oral questions of the other party or of a witness for the other party. The deposition is conducted under oath and may be introduced as evidence at the trial.

In the process of preparing a personal injury case, attorneys will often take the deposition of the injured party's physician. Generally, the physician is served with a notice to take a deposition which will specify the time and place for the taking of the deposition. Attached to this notice will usually be a subpoena duces tecum directing the physician to bring with him to the deposition the injured patient's medical records and reports.

A physician who is a resident of the state where the action was commenced may be required to attend a deposition only in the county in which he resides, or is employed or transacts his business in person, or at such other convenient place as the court determines. A non-resident witness, however, may be required to attend only in the state and county where he is served with a subpoena, or within 40 miles from the place he is served with a subpoena, or at such other convenient place as the court determines.<sup>10</sup>

The statutorily required witness fee is generally tendered to the physician when he is served with the subpoena and notice of deposition.<sup>11</sup> The witness fee in the Indiana Circuit and Superior Courts currently is \$5.00 per day plus mileage at the rate paid to state officials and employees.<sup>12</sup> Although, technically, the witness is entitled to receive only the statutory witness fee, out of courtesy, attorneys often will reimburse the physician for the value of the time spent at the deposition.

A physician has a right to motion the court to quash or modify the subpoena

duces tecum which accompanies the notice of the deposition.<sup>13</sup> The physician may choose to make such a motion when it will be inconvenient or impossible for him to attend the deposition at the time or place specified on the notice. However, before taking formal steps to quash the subpoena, the physician should call the attorney who will conduct the deposition and try to reschedule the deposition at a time and place convenient for all parties involved.

When a physician feels that the records he is requested to bring to the deposition contain information which is privileged or may harm or unreasonably embarrass the patient, he may, prior to the taking of the deposition, file with the court a petition for a protective order.<sup>14</sup> If granted, the court will limit the scope of the deposition by entering an order prohibiting the opposing party from inquiring into matters the court deems privileged or irrelevant to the subject matter of the lawsuit. If a protective order is not sought prior to the taking of the deposition, the deposition may be suspended to make a motion for a protective order.<sup>15</sup> However, it should be noted that sanctions, including expenses and attorneys' fees, may be imposed upon the party who requests the suspension if the court determines that the discovery process has been abused.<sup>16</sup>

A physician, or any witness, validly served with a subpoena and tendered the statutory witness fee, cannot ignore the subpoena on the ground of privilege or the ground that the documents sought are, in his opinion, irrelevant or immaterial.<sup>17</sup> Any person who fails to obey a subpoena, without

an excuse which the court deems adequate, may be cited for contempt of court or his appearance may be enforced by attachment.

#### **Deposition of Witnesses upon Written Questions**

A discovery procedure rarely used in personal injury cases is to depose the physician by means of written questions.<sup>18</sup> To take a deposition upon written questions, the opposing counsel must serve a notice upon the witness which specifies the name or descriptive title and address of the person before whom the deposition is to be taken. Attached to the notice will be a subpoena duces tecum instructing the physician to appear at the deposition with any records or reports designated within the subpoena. Copies of the written questions will also be served with the notice.

At an agreed upon time, the officer designated in the notice will take and record the physician's testimony in response to the written questions. Many issues concerning depositions are the same whether it is an oral deposition or a deposition upon written questions. The motions and objections discussed in the previous section may be made and sanctions may be imposed for abuse of discovery and for failing to obey the subpoena.

#### **Records Regarding Mental Health, Drug and Alcohol Abuse**

Physicians need to be aware that there are special regulations with respect to mental health records and records kept in conjunction with federal drug and alcohol abuse programs. In certain circumstances men-

tal health records are not discoverable or admissible in any legal proceeding without the consent of the patient.<sup>19</sup>

Federal statutes regulate the release of patient records maintained in connection with the performance of any program or activity relating to alcoholism or alcohol abuse, education, training, treatment, rehabilitation or research,<sup>20</sup> as well as any drug abuse prevention function,<sup>21</sup> which is conducted, regulated or directly or indirectly assisted by any department or agency of the United States.

#### **'Beware the Wolf in Sheep's Clothing'**

Should you receive a deposition notice and subpoena from the patient's attorney in a case where you feel that the patient may be unhappy with your treatment, you should first discuss the same with your personal attorney, and/or your malpractice insurance agent. If the patient's attorney is contemplating a malpractice action (particularly if he doesn't have a very good personal injury case), it would be preferable to have your own attorney present at the deposition.

#### **Conclusion**

Too often physicians misunderstand a patient's right to confidentiality and put themselves in jeopardy by ignoring legal documents sent in connection with pre-trial discovery. The purpose of this article is to alert physicians to the many options available when faced with a troublesome disclosure question. Aware of the alternatives, a physician may intelligently consult with his attorney when formulating a response to requests for patient information.



# Drug Information: How Much Is Too Much?

## Suggestions for Improving the Sources of Drug Information

---

ROBERT L. DEVETSKI, M.D.  
South Bend

---

**T**HIS DISCUSSION is intended to provide observations on the various sources of drug information available to practicing clinicians, and to offer some suggestions on possible methods of improving the existing system and its contents.

Since the ultimate source of information for most physicians is the Package Insert (P.I.) or the "bound volume" counterpart—the *Physicians' Desk Reference* (P.D.R.)—any effort to improve the facility with which material can be quickly scanned would be of significant value. One of the more frustrating problems encountered is the non-uniformity of outline for the basic material. If well outlined sections for each drug could be provided in a more consistent fashion, it would be possible to secure the desired information more expeditiously, namely:

- Drug Name (generic and group listing)
- Clinical Pharmacology

From the Dept. of Medicine, Memorial Hospital and St. Joseph Medical Center, South Bend, Ind., and Rush Presbyterian-St. Luke's Medical Center, Chicago. The author is a visiting Professor of Medicine, Rush Medical College, Chicago.

Presented at a meeting of the Drug Information Association in Philadelphia, Jan. 20, 1986.

Correspondence: 919 E. Jefferson Blvd., South Bend, Ind. 46222.

- Clinical Indications
- Contraindications
- Adverse Reactions (including interactions)
  - Dosage (and modifiers—pregnancy, age, wt.)
  - Pertinent References

Secondly, using a "boxed" warning may be desirable on rare occasions and logically would be included under Adverse Reactions. But it is time-consuming and confusing to provide all the material re-listed and re-worded under Precautions, Warnings, Adverse Reactions, Contraindications, etc. The absolute contraindications and *major* adverse effects should be highlighted, and in larger print, as well. But Clinical Pharmacology, Clinical Indications, References, and less frequently noted Adverse Effects could well be placed in smaller case type, in our judgment.

References to outdated laboratory test results—listed as one of the three clinically significant "adverse effects" (signs, symptoms, and laboratory)—should be deleted from the material, and at least updated annually; for instance, PBIs, BMRs, BSPs, PSPs, among others, are not usually performed any longer.

One of the most discouraging problems for physicians is that of attempting to discern pertinent details regarding adverse drug reactions; all too frequently, one finds a positive "system review"—and in the same sized fine print. We recognize the need for satisfying federal requirements concerning the "frequent," "occasional," and "rare," instances of untoward results; but would appreciate perhaps some graded form of decremental print size, or bolder type, to highlight particular-

ly the most frequent adverse reactions noted.

Another significant problem of the package insert—and thus the PDR—is the temporal delay in provision of information. Because of that hiatus, and even with attempts at periodic supplements, it is difficult to maintain an awareness of *current* information. A recent periodical (Monthly Prescribing Reference) attempts to reduce the chronaxie through a monthly, rather than yearly, publication. On occasion, the delay in resolving a question may be a significant hazard to the patient. A more direct means of communicating with various pharmaceutical companies, through Departments of Clinical Affairs, or Professional Relations, could be accomplished if phone numbers could be listed in the respective company's section of the PDR.

It is, in my opinion, particularly unfortunate to see—under Clinical Indications, or occasionally Clinical Microbiology (or some other "newly-designated" section)—a comprehensive listing of all gram negative rods, and cocci, gram positive rods, and cocci, which are sensitive *in vitro* to many of the newly released and very expensive third and fourth generation antibiotics. The practice of listing all the organisms whose growth can be shown to have been inhibited *in vitro* has caused a number of physicians to assume that for prophylaxis and therapy of procedures and serious infections, respectively, it is better to use the expensive and modern "panaceamycins." Unfortunately, this does not reflect *in vivo* results, causes an enormous increase in drug costs, and ultimately, possible other adverse effects for the patients.



A statement clarifying this misconception would be desirable in the drug description.

Detailed descriptions of terms such as "susceptible" or "resistant" could well be omitted in an effort to reduce verbiage. An example from the description of a newly released Cephalosporin is noted:

"A report of susceptible indicates that the infecting organism is likely to respond to X therapy, and a report of resistant indicates that the infecting organism is *not* likely to respond to therapy."(!)

I don't really believe descriptions of possible neoplastic disease relationships—particularly as detailed under "animal pharmacology"—offer significant or pertinent information to the practicing physician. I believe the journals and textbooks of pharmacology are a more logical source of detailed information concerning that type information; and frankly I don't believe details of animal pharmacology should be added to the already encyclopedic size of that drug information source.

For the most part, basic programs of management and therapy of systemic disease evolve during the physician's clinical and specialty training periods.

Once in practice, the sources of information for pharmacotherapy evolve from personal habits of continuing education, including intensive review courses; drug information bulletins, particularly the Medical Letter; monitoring treatment, as outlined initially through a consultant's program



of management; peer group discussion regarding effective treatment ("curbstone consults"); and ultimately, for detailed additional information concerning contraindications and adverse reactions, the "PDR."

The value of personal experiences with professional service representatives ("detail" men and women) varies considerably. However, information concerning availability of newer compounds, and relative costs of similar agents such as cimetidine and ranitidine, or various forms of erythromycin, can be worthwhile.

Advertisements in journals are a reasonable source of direct information and cognitively of considerably greater value than the mail-out material, which rarely reaches the physician's desk top.

Any direct communication from a Medical Director's office, or the FDA, is promptly and personally evaluated by the preponderant majority of practicing physicians, if for no other reason than that (a) occasionally, patients, or their relatives, may have already heard

some of the details; and (b) there may be medico-legal ramifications from a continued state of unawareness.

Basically, a physician's effort at maintaining a contemporary knowledge base—and effective therapeutic awareness—is an ongoing and individual one. Although the recent trends in malpractice judgments have served as an added, expensive, and somewhat compelling force, the physician's practice habits are ultimately the result of his personal initiative in ensuring maximum effective, and salutary, care for his patients.

In summary then, these are the suggestions alluded to earlier for improving the sources of drug information for physicians:

- A readily available listing of phone numbers, printed at the beginning of each company's section in the PDR, as a more direct source of professional information for the physician.
- Better uniformity in listing the major sections of the package insert.
- A reduction in the amount of information provided, particularly with respect to: outdated types of laboratory tests; redundant statements concerning obvious definitions of terms; deletion of material concerning animal pharmacology; reducing detailed descriptions of material available in textbooks of pharmacology; and reducing dosage discussions to a brief and more uniform method.
- Utilization of decremental sized print, and bold face highlighting for significant and frequently encountered adverse effects of therapy.

# Look-Alike and Sound-Alike Drug Names

**BENJAMIN TEPLITSKY, R. PH.**  
Brooklyn, N.Y.

Look-alike and sound-alike drug names can be misinterpreted by a nurse reading doctors' orders or by a pharmacist compounding physicians' prescriptions. Such misunderstandings can result in the administration of a drug not intended by the prescriber. Awareness of such look-alike and sound-alike drug names can reduce potential errors.

*Category:*  
*Brand Name:*

*Generic Name:*  
*Dosage Forms:*

*Category:*  
*Brand Name:*  
*Generic Name:*

*Dosage Forms:*

**SERENTIL**  
Antipsychotic  
Serentil,  
Boehringer Ingelheim  
Mesoridazine  
Tablets, Concentrate,  
Injection

**ATIVAN**  
Antianxiety agent  
Ativan, Wyeth  
Lorazepam

Tablets, Injection

**SURITAL**  
General anesthetic  
Surital, Parke-Davis

Thiamylal sodium  
Injection

**AVITENE**  
Hemostatic  
Avitene, Alcon  
Microfibrillar collagen  
hemostat  
Fibrous Form, Non-  
Woven Web Form



## • Revolving Line of Credit

Establish your revolving line of credit today. There are no fees involved. And as needed, just call 800-345-6994. We'll send the money via overnight mail. If your needs are immediate, we'll wire the money directly to your bank.

## • Interest Only Loan

Firstmark Professional Services offers a variety of creative financing such as interest-only loans which allows you to pay only the interest payments during an agreed upon time period.

## • Monthly Payment Amortized Loans

Borrow up to \$25,000 with extended term repayment plans. Or prepay your loan early with no prepayment penalty.

Indiana residents call 317-262-5980 Collect.

# Your direct line to \$25,000.

**No broker fees. No points.  
No prepayment penalty.**

Firstmark Professional Services is comprised of a group of specialists providing credit services directed to the financial requirements of the medical profession since 1972. As a result of our many years of experience in this area of specialty, Firstmark has developed many financial programs uniquely suited to the needs of your profession.

The needs of the medical community are unique. That's why we created the Firstline Direct Card. It's your direct line to loans up to \$25,000.

## Borrow direct.

Direct lending is the key to quick turnaround, confidentiality and the elimination of broker's fees. With Firstline Direct, you're dealing directly with the source . . . Firstmark Professional Services.

Firstmark can quickly make available the cash you need for • tax payments • pension plan contributions • investments • equipment • educational expenses or any other purpose, at your convenience, and within our policy of strict confidentiality.

## Call 800-345-6994

It's that simple. We'll send you complete information about Firstline Direct. Or if you choose, we'll begin your application over the phone.

**Call Firstline Direct today. We're your direct line to your financial needs and loans up to \$25,000**

All financial products subject to local regulations and availability.

**Firstmark Professional Services** 110 E Washington St Indianapolis Indiana 46204

Firstmark Professional Services is a division of Firstmark Financial Corporation.  
(An affiliate of Indianapolis Morris Plan Corporation.)

**BROWN** THE BROWN PHARMACEUTICAL CO., INC.

2500 West Sixth Street, Los Angeles, CA 90057



For Full Prescribing Information, Please See PDR.

# **Android**<sup>®</sup> / 5<sup>Buccal</sup> / 10<sup>Oral</sup> / 25<sup>Oral</sup> mg / mg / mg

Methyltestosterone U.S.P. Tablets

# **ANDROID**<sup>®</sup> / F

Fluoxymesterone U.S.P. Tablets, 10<sub>mg</sub>





## **FOR MEDICAL PROFESSIONAL LIABILITY COVERAGE, THE ISMA STRONGLY RECOMMENDS PHYSICIANS INSURANCE COMPANY OF INDIANA.**

Several companies are anxious to provide most Indiana physicians with medical professional liability insurance coverage. *Only one* has received the formal endorsement, support, and sponsorship of the Indiana State Medical Association. That company is PICI, Physicians Insurance Company of Indiana.

Why PICI?

Because PICI is committed to providing Indiana physicians with the best possible coverage at the lowest possible rates throughout their medical careers. Indiana physicians dominate the company's board of directors and serve on budget, claims and underwriting committees. PICI is a publicly held stock company, and provides annual as well as periodic interim financial reports.

With PICI, you know what's happening to your premium dollars. You will receive information about claims experience and trends. You are guaranteed input on company activities, through your physician members of the company's board and its committees. You are part of the company.

Through PICI, you also receive competitively priced auto, homeowners, office protection and personal umbrella coverages, designed and offered with the same long term commitment.

Compare all that PICI offers with what you will obtain from other sources of medical professional liability and other essential insurance coverages. We think you'll agree that the ISMA has endorsed the best.

**The Accountable Company . . .**



**PHYSICIANS INSURANCE  
COMPANY OF INDIANA**

3901 West 86th Street  
Suite 350  
P.O. Box 689059  
Indianapolis, Indiana 46268  
(317) 872-3046 or toll free  
in Indiana (800) 732-1313

# CME QUIZ

TO OBTAIN ONE HOUR OF CATEGORY 1 AMA CME CREDIT, answer the following questions by circling the correct answer on the answer sheet below. Complete and clip the application form and mail it to: Indiana University School of Medicine, CME Division, Fesler Hall 224, 1120 South Dr., Indianapolis 46223.

## Mycosis Fungoides

CONTINUED FROM PAGES 330-335

For the following questions choose the best single answer.

1. Clinicians caring for patients with poorly responsive chronic dermatitis should:
  - a) reassure the patient that the eruption will eventually clear with topical steroids
  - b) prescribe prednisone systemically in suppressive doses
  - c) be alert to the development of psoriasis like thickening which may herald the development of early mycosis fungoides
  - d) biopsy a lymph node
2. All of the following are true statements about mycosis fungoides *except*
  - a) The disease typically is first diagnosed in the fourth and fifth decades
  - b) The incidence of the disease in women is significantly higher than in men
  - c) A relationship to exposure to environmental and industrial toxins has been suggested
  - d) The incidence of mycosis fungoides approximates the incidence of Hodgkin's disease
3. Skin biopsy in patients with mycosis fungoides
  - a) is usually diagnostic in the early eczematous stage of the disease
  - b) always shows characteristic mucin deposits in hair follicles
  - c) if accompanied by OKT4 staining will differentiate the disease from allergic contact dermatitis and lichen planus
  - d) is usually reliably made only in plaque and tumor stage disease
4. Hematology and/or automated serum chemistry evaluations
  - a) show consistent polymorphonuclear leukocytosis in early cases
  - b) give inconsistent results until dissemination occurs and/or Sezary cells are present
  - c) routinely show elevations of SGOT and SGPT indicating hepatic infiltration
  - d) should not be obtained in patients with mycosis fungoides
5. All of the following are classical stages of mycosis fungoides *except*
  - a) tumor stage
  - b) plaque stage
  - c) hematogenous stage
  - d) eczematous or "premycotic" stage
6. Pautrier microabscesses are
  - a) collections of abnormal T cells within the epidermis
  - b) PMN abscesses in the renal tubular epithelium
  - c) formed in response to bacterial secondary infection
  - d) correlated with a worse prognosis
7. Staging laparotomy in mycosis fungoides
  - a) is routine
  - b) is essential for selection of appropriate therapy
  - c) has contributed substantially to our understanding of the disease
  - d) is not usually recommended in most treatment centers

## MARCH CME QUIZ Answers

Following are the answers to the CME quiz that appeared in the March 1986 issue: "Aortic Surgery: A Short Synopsis," by Michael C. Dalsing, M.D., et al:

- |      |       |
|------|-------|
| 1. e | 6. a  |
| 2. e | 7. b  |
| 3. d | 8. a  |
| 4. d | 9. a  |
| 5. b | 10. a |

CONTINUED ON PAGE 386

### Answer sheet for Quiz: (Mycosis Fungoides)

- |            |             |
|------------|-------------|
| 1. a b c d | 6. a b c d  |
| 2. a b c d | 7. a b c d  |
| 3. a b c d | 8. a b c d  |
| 4. a b c d | 9. a b c d  |
| 5. a b c d | 10. a b c d |

I wish to apply for one hour of category 1 AMA Continuing Medical Education credit through the I.U. School of Medicine. I have read the article and answered the quiz on the answer sheet above. I understand that my answer sheet will be graded confidentially, at no cost to me, and that notification of my successful completion of the quiz (80% of the questions answered correctly) will be directed to me for my application for the Physician's Recognition Award of the American Medical Association. I also understand that if I do not answer 80% of the questions correctly, I will not be advised of my score but the answers will be published in the next issue of INDIANA MEDICINE.

Name (please print or type)

Address

Identification number (found above your name on mailing label)

Signature

To be eligible for this month's quiz, send your completed, signed application before May 10, 1986 to the address appearing at the top of this page.

# EDITORIALS

## Rare Anesthesia Reaction Can Be Fatal, So Antidote Must Be Near at Hand

Attention is called to the rare but extremely dangerous complication of general anesthesia — malignant hyperthermia — in an authoritative article in the February 14, 1986 issue of *JAMA*. The article should be read by or explained to every member of all hospital surgical teams.

It recognized promptly and treated with, among other methods, the drug

dantrolene, the patient may be cured. Otherwise, the mortality is distressingly high.

Dantrolene sodium is not stocked in many hospitals. It should be a part of the emergency drug supply in every operating room. If it is stocked in the drug room, its arrival in the operating room will be too late; it should be available immediately when malignant hyperthermia is diagnosed.

The article is recommended for study by all medical, surgical and nursing personnel.

## Premature Discharge or DRG Days?

### Guest Editorial

Hospitals are experiencing drastic changes under the DRG payment system. However, patient care should not be compromised no matter what payment is received or not received.

The concept of DRG days should be clearly understood: DRG days are a guide to effective management of time, not a standard of care. It is important to remember that patients must continue to receive treatment as long as it is required, regardless of the payment source or number of DRG days.

One misunderstanding of DRG days is the notion that DRG days are a limit on how long a patient can stay in the hospital (i.e., "Your DRG days are used

up; you must be discharged.") DRG days are based on an average; they are not a limit.

Payments under the Prospective Payment System (PPS) are based on an average. It is true that if a patient has to stay in the hospital longer than the number of DRG days, the reimbursement may not cover the actual cost of

---

**DRG days are not a limit on how long a patient can remain hospitalized . . .**

---

hospitalization. On the other hand, if a patient's stay comprises fewer days than the DRG average, the reimbursement may be greater than the actual cost of the hospitalization.

The misunderstanding of DRG days has led to concern about the welfare of Medicare beneficiaries. According to Senator John Heinz (R-Pa.), Medicare patients are being "catapulted out of hospital doors prematurely as a result of inflexible, inaccurate pricing and packaging of illnesses." Senator Edward Kennedy (D-Mass.) also called for changes to prevent "dumping of Medicare patients."

Concern about prospective payments' (DRGs) adverse effects on quality of care for Medicare patients has and will bring about major changes in the PRO review program. Investigations by the Inspector General's office are in progress to determine how severe a problem there may be with regard to premature discharges.

All PROs have been instructed to be

acutely aware of this problem and focus their reviews to assure that premature discharges are not taking place and to institute sanctions in any case where a premature discharge may have placed a patient at risk.—Reprinted with permission from "MFMC Review," a newsletter of the Mississippi Foundation for Medical Care, Inc., Jackson, Miss.

## Cardiac Arrest

### Commentary

Two patients, side by side, in the recovery room look very much alike — both on respirators with head bandages, same "vital" signs, both unconscious. But one is dying and one is living. The only difference between them at this point is their potential. One is recovering from brain surgery; the other is dying from brain injury.

A few hours later one is alive; one is dead. Again the difference is minimal. One moves a hand on command: "Move your hand, John." John moves his hand. The other does not move his hand on command; his hand only moves spontaneously, without relation to a request. One is "brain dead;" the other is not.

A great flurry of activity occurs, and the dead patient is taken to surgery. Physicians scrub, the patient's skin is washed, and an incision is made to "harvest" the organs. The body is warm, the heart beating, the blood oxygenated; repeatedly, the medical team has to make an effort to remember that this patient is dead. He is dead because all the functioning vital organs are being maintained by the anesthesiologist, not by the patient's brain. That was destroyed in an accident 36 hours ago.

Suddenly, the quiet in the surgery suite is interrupted. "There is a cardiac arrest — damn, now all the organs are going to die!"

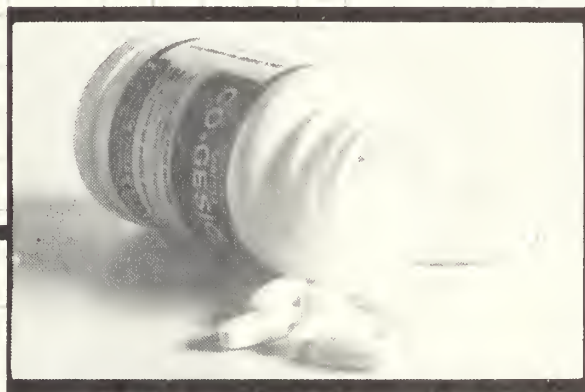
A body can die piecemeal. Living organs are harvested from a dead body. That cardiac arrest can take place after death is an idea that takes time to absorb. Our emotions do not always grasp new concepts as readily as our reason. — Renate G. Justin, M.D., Terre Haute





# Co-Gesic<sup>®</sup>

(500 mg. Acetaminophen - 5 mg. Hydrocodone Bitartrate)



Proven  
Dependability

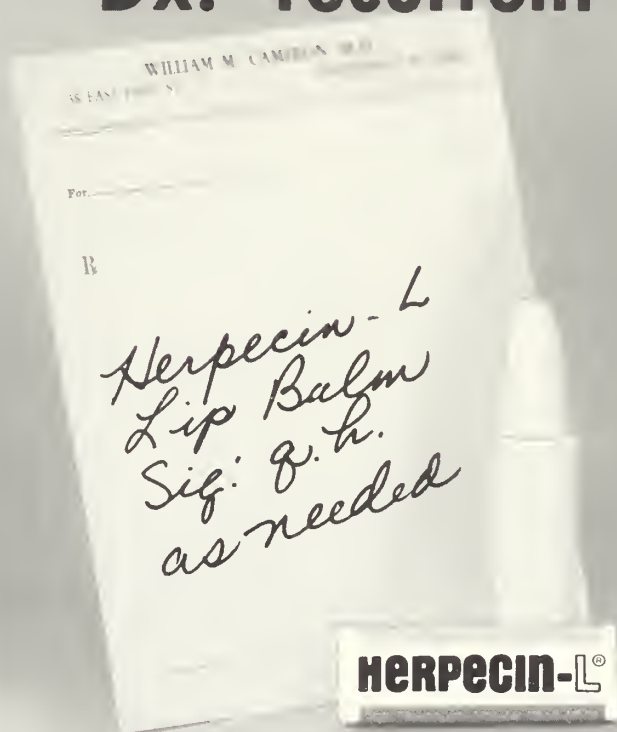


**CENTRAL PHARMACEUTICALS, INC.**

SEYMOUR, INDIANA 47274 USA

*Quality Pharmaceuticals Since 1904*

## Dx: recurrent herpes labialis



"HERPECIN-L is my **treatment of choice** for perioral herpes." GP, NY

"HERPECIN-L appears to actually **prevent** the blisters . . . used **soon enough**." DDS, MN

"HERPECIN-L<sup>®</sup>. . . a **conservative approach** with **low risk/high benefits**." MD, FL

"Used at **prodromal symptoms** . . . blisters **never formed** . . . remarkable." DH, MA

"(In clinical trials) . . . **response was dramatic**. HERPECIN-L . . . **proven far superior**." DDS, PA

"All patients claimed **shorter duration** . . . at **prodromal symptoms** . . . HERPECIN-L **averted** the attacks." MD, AK

OTC. See P.D.R. for information. For samples to make your own clinical evaluation, write: CAMPBELL LABORATORIES, Inc., P.O. BOX 812-MD, FDR STATION, NEW YORK, N.Y. 10150

**HERPECIN-L<sup>®</sup>**

In Indiana HERPECIN-L is available at all *Hook, Osco, Peoples, Revco, Ribordy, SuperRx Drug Stores* and other select pharmacies.

# ***PHYSICIANS' DIRECTORY***

## **CARDIOLOGY DIAGNOSTIC AND INTERVENTIONAL**

**WILLIAM K. NASSER, M.D.**

**MICHAEL L. SMITH, M.D.**

**DENNIS K. DICKOS, M.D.**

**CASS A. PINKERTON, M.D.**

**JOHN D. SLACK, M.D.**

**JAMES W. VAN TASSEL, M.D.**

**CHARLES M. ORR, M.D.**

**JANE HOWARD, M.D.**

CARDIOLOGY AND CARDIAC CATHETERIZATION  
ECHOCARDIOGRAPHY  
EXERCISE STRESS TESTING  
CORONARY ANGIOPLASTY  
NUCLEAR CARDIOLOGY  
PACEMAKER SURVEILLANCE  
HOLTER MONITORING

### **ST. VINCENT PROFESSIONAL BUILDING**

SUITE 400  
8402 HARCOURT ROAD  
INDIANAPOLIS, INDIANA 46260

PHYSICIAN  
REFERRAL ONLY

TELEPHONE (317) 875-9316  
(TOLL-FREE) 800-732-1482  
(TOLL-FREE) 800-CHD-PTCA  
DAY OR NIGHT

# PHYSICIANS' DIRECTORY

## COLON AND RECTAL SURGERY

W. M. KENDRICK, M.D.  
G. A. DONNALLY, M.D.  
R. JAMES WILSON, M.D.  
W. E. KELLEY, M.D.  
RICHARD L. STOUT, M.D.

Certified: International Board of Proctology

Practice limited to Colonoscopy,  
Treatment and Surgery of Rectal Diseases

Kendrick Memorial Hospital, Inc.  
Mooreville, Indiana  
Tel: 317-831-9300

(JCAH Accredited)

## PLASTIC SURGERY

AMBULATORY SURGERY FACILITY  
1944 N. Capitol Ave. Indianapolis 46202

"An office surgery facility"

HAROON M. QAZI, M.D., F.A.C.S.

Diplomate, American Board of Plastic Surgery

Phone: 317-923-4822

317-926-3466

A space this size in the Physicians' Directory costs only \$120. Even a notice this size will serve to provide referrals for the next 12 months.

## ALCOHOLISM TREATMENT



**KOALA  
CENTER**

### Individualized Treatment for Alcoholism and Drug Abuse

Men — Women — Adolescents

Michael Chadwick, M.D.  
David Gregory, M.D.  
Koala Center  
2223 Poshard Drive  
Columbus, Indiana  
(812) 376-1711

John Krueger, M.D.  
Koala Center of  
St. Joseph's Hospital  
700 Broadway  
Fort Wayne, Indiana  
(219) 425-3825

John Saalwaechter, M.D.  
Koala Center  
1711 Lafayette Avenue  
Lebanon, Indiana  
(317) 482-3711  
and  
Koala Adolescent  
1404 S. State Avenue  
Indianapolis, Indiana  
(317) 783-4084

Daniel Kubley, M.D.  
Koala Center  
1800 N. Oak Road  
Plymouth, Indiana

Indiana Toll-Free  
24-Hour HELPLINE  
1-800-622-4711

### OUTREACH OFFICES

Bloomington  
Clarksville  
Hammond  
Indianapolis  
Marion  
Richmond  
South Bend  
Muncie  
Crawfordsville



# PHYSICIANS' DIRECTORY

## CARDIOLOGY

### INDIANAPOLIS CARDIOLOGY ASSOCIATES, INC.

Robert E. Edmands, M.D.  
Samuel M. Hazlett III, M.D.

Abdel A. Zeni, M.D.  
Don B. Ziperman, M.D., F.A.C.C.

CARDIOLOGY AND CARDIAC CATHETERIZATION  
ECHOCARDIOGRAPHY  
EXERCISE STRESS TESTING  
CORONARY ANGIOPLASTY  
PACEMAKER SURVEILLANCE  
HOLTER MONITORING

1315 North Arlington Avenue  
Suite #100  
Indianapolis, Indiana 46219  
(317) 359-3501

*PHYSICIAN REFERRAL ONLY*

1500 Albany Street  
Suite #912  
Beech Grove, Indiana 46107  
(317) 786-9211

## PERIPHERAL VASCULAR SURGERY



VASCULAR SURGERY, INC.

AUSTIN L. GARDNER, M.D., F.A.C.S.  
MALCOLM B. HERRING, M.D., F.A.C.S.  
DANIEL R. LeGRAND, M.D., F.A.C.S.  
DAVID L. MADISON, M.D.

8402 HARCOURT ROAD, SUITE 613  
INDIANAPOLIS, INDIANA 46260  
OFFICE HOURS BY APPOINTMENT  
TELEPHONE (317) 872-4129  
OR  
800-662-5367  
8 a.m.-5 p.m. only  
Monday-Friday

## ALCOHOLISM TREATMENT

**Douglas Bullington, M.D.**

Program Director



**COUNTERPOINT CENTER**

at Valle Vista Hospital  
898 E. Main Street  
Greenwood, IN 46142  
317/887-1348

- Free evaluation and intervention
- Adult & Adolescent Treatment Services
- 24 hours-a-day

# PHYSICIANS' DIRECTORY

## INTERNAL MEDICINE

### NEPHROLOGY & INTERNAL MEDICINE, INC.

Thomas Wm. Alley, M.D., FACP    Theodore F. Hegeman, M.D.  
George W. Applegate, M.D.    Douglas F. Johnstone, M.D.  
Charles B. Carter, M.D.    Wendy L. Kindig, M.D.  
William H. Dick, M.D., FACP    LeRoy H. King, Jr., M.D., FACP  
Mary A. Margolis, M.D.

1801 N. Senate Blvd, Suite 355, Indianapolis 46202  
Tel: 317-924-8425

By Physician Referral

Answering Service 926-3466

CLINICAL NEPHROLOGY, RENAL TRANSPLANTATION, HEMODIALYSIS, PERITONEAL DIALYSIS, HYPERTENSION, FLUID AND ELECTROLYTE IMBALANCE, CRITICAL CARE.

**MERIDIAN MEDICAL GROUP, INC.**  
**MAIN OFFICE—1801 N. Senate Blvd.**  
**929-5800**  
**NORTH OFFICE—3077 E. 98th St.**  
**(98th & Keystone) 843-8704**

#### CARDIOLOGY

Richard M. Nay, M.D. 929-8505  
Warren E. Coggeshall, M.D. 846-5666  
Richard R. Schumacher, M.D. 929-5818

#### GASTROENTEROLOGY

Robert D. Pickett, M.D. 846-4696  
Lee G. Jordan, M.D. 929-5826  
Martin P. Meisenheimer, M.D. 929-5816  
John C. Kohne, M.D. 929-5822

#### HEMATOLOGY/ ONCOLOGY

James E. Schroeder, M.D. 929-5812  
Frank A. Workman, M.D. 929-5813

#### METABOLISM & ENDOCRINOLOGY

William M. Holland, M.D. 843-8700

#### INTERNAL MEDICINE

Hunter A. Soper, M.D. 929-5810  
Douglas H. White, Jr., M.D. 843-8736  
B. T. Maxam, M.D. 843-8703  
Michael B. DuBois, M.D. (GERIATRICS)  
929-5806

Patricia K. Hendershot, M.D. 929-5815  
Douglas J. Moeller, M.D. 929-5808  
Timothy J. Story, M.D. 929-5811  
John F. Schaefer, Jr., M.D. 929-5807

#### NEUROLOGY

#### EEG AND EMG LAB

Norman W. Oestrike, M.D. 929-5828  
Charles E. Rehn, M.D. 929-5827  
John R. Scott, M.D. 929-5819  
Bradford R. Hale, M.D. (PEDIATRICS)  
929-5823  
Robert J. Alonso, M.D. 929-5824

#### PULMONARY DISEASES

Michael R. Niemeier, M.D. 929-5820

## CLINICAL, ANATOMIC PATHOLOGY



### The Medical Laboratory

of Drs. Thornton Haymond - Costin Buehl  
Bolingier Warner McGovern McClure Hooker

5940 West Raymond Street, Indianapolis, Indiana 46241

Phone: (317) 248-2448

### COMPLETE LABORATORY SERVICES

Serving Indiana Since 1947

- MICROBIOLOGY
- SEROLOGY
- CHEMISTRY
- SURGICAL PATHOLOGY
- HEMATOLOGY
- COAGULATION
- FORENSIC
- CYTOLOGY
- EKG
- VETERINARY PATHOLOGY
- TOXICOLOGY
- COURIER SERVICES



### CLINICAL AND ANATOMIC PATHOLOGY

Central Testing Facility:  
5940 W. Raymond St.  
For information and details phone  
248-2448

## RHINOLOGY

By appointment only

317-359-9636

### CARL B. SPUTH, M.D.

*Diseases & Surgery of Nose & Sinuses  
Plastic Surgery of the Nose  
Nasal Allergy, Rhinomanometry*

5506 E. 16th St.

Indianapolis 46218

# *PHYSICIANS' DIRECTORY*

## OTOLOGY

### **MERIDIAN OTOLOGY LAB**

- \*Complete Audiometric Evaluations
- \*Hearing Aid Evaluations and Dispensing
- \*Brainstem Auditory Evoked Response
- \*Visual Evoked Response
- \*Electronystagmography

Richard Kurtz, M.D.      Jack Summerlin, M.D.  
Kathleen Corbin, M.A., CCC-A  
Audiologist

3266 N. Meridian Street      Indianapolis, Indiana  
Suite B12      (317) 925-7077

## PSYCHIATRY

### **Davis Psychiatric Clinic, Inc.**

1431 North Delaware Street  
Indianapolis, Indiana 46202  
317/634-9930

James R. Davis, M.D.      R. Peter Mohlman, M.D.  
Larry M. Davis, M.D.      George McAfee, M.D.  
Balwant S. Mallik, M.D.      Judith L. Campbell, M.D.

Comprehensive Child, Adolescent, Adult Psychiatry  
Sexual Therapy, Crisis Intervention  
Alcohol and Substance Abuse

## DERMATOPATHOLOGY

### **DERMATOPATHOLOGY LABORATORY**

Larry J. Buckel, M.D.  
Robert M. Hurwitz, M.D.

Howard R. Gray, M.D.  
William B. Moores, M.D.



**Diplomates of the American Boards  
of  
Dermatology and Dermatopathology**

*Specializing in*  
**Inflammatory Skin Diseases  
and  
Neoplasms of the Skin**

9202 North Meridian Street  
Suite 215

Approved for and Accept  
Medicare and Medicaid  
Assignment

Indianapolis, Ind. 46260  
(317) 843-2204

**UPS Mailers and Courier Service Available**



# PHYSICIANS' DIRECTORY

## ONCOLOGY—HEMATOLOGY

### INDIANA ONCOLOGY-HEMATOLOGY CONSULTANTS



#### ADULT ONCOLOGY HEMATOLOGY

Laurence H. Bates, M.D.  
William H. Bond, M.D.  
William M. Dugan, M.D.  
Redmond P. Hogan, M.D.  
Gregory W. Smith, M.D.

#### PEDIATRIC ONCOLOGY HEMATOLOGY

Deborah S. Provisor, M.D.

#### HOSPICE CARE-INTERNAL MEDICINE

Neil E. Irick, M.D.

1828 N. ILLINOIS  
INDIANAPOLIS  
INDIANA 46202

PHONE: 317/927-5770  
TOLL FREE: 1-800-ONC-HEME  
1-800-662-4363

*Located in the Byram Gates Middleton House  
Listed on the National Register of Historic Places*

# PHYSICIANS' DIRECTORY

## CLINICAL, ANATOMIC PATHOLOGY

### **GPL** CENTRAL INDIANA PATHOLOGY LABORATORIES, INC.

Edwin E. Pontius, M.D., F.C.A.P.     Mary L. Forster, M.D., F.C.A.P.  
*Director*     *Co-Director*

Elizabeth C. Bond, M.T. (ASCP), S.M.  
*Administrator*

- PROMPT WALK-IN SERVICE
- 24 HOUR TURNAROUND FOR MOST TESTS
- COURIER SERVICE FOR PHYSICIAN OFFICES
- ASSIGNMENT ACCEPTED ON MEDICARE AND MEDICAID
- BLUE SHIELD PREFERRED PROVIDER

**MAIN LABORATORY**  
Northwest Medical Building  
3500 Lafayette Rd.  
291-9364

**BRANCH LOCATIONS**  
Westlake Medical Building  
805 Beachway Dr. 244-7754  
Zionsville  
50 Boone Woods 873-4286

• **A FULL SERVICE OUTPATIENT CLINICAL LABORATORY** •

## ORTHOPEDIC FOOT SURGERY

### **ROBERT M. PALMER, M.D.** **A.A.O.S. F.A.C.S.**

Diplomate of the American Board  
of Orthopaedic Surgery

Member of the American Orthopaedic  
Foot and Ankle Society

### **ORTHOPAEDIC RECONSTRUCTIVE SURGERY OF THE FOOT AND ANKLE**

2020 W 86th Street, Suite 304  
Indianapolis, Indiana 46260  
(317) 872-3364

## HAND SURGERY

### **VIDYASAGAR S. TUMULURI, M.D., F.A.C.S., INC.**

DIPLOMATE AMERICAN BOARD OF SURGERY

*Acute & Reconstructive Hand Surgery*

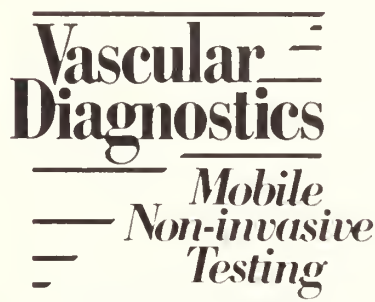
By Appointment     South Sherman Professional Complex  
Telephone (317) 783-1319     3417 S Sherman Dr., Suite F  
If No Answer Call. (317) 926-3466     Beech Grove, Indiana 46107

A space this size in the Physicians' Directory costs  
only \$120. Even a notice this size will serve to pro-  
vide referrals for the next 12 months.

# *PHYSICIANS' DIRECTORY*

## **VASCULAR DIAGNOSTICS**

**Mobile vascular laboratory service**



State of the art non-invasive vascular testing

Performed on site at various hospitals throughout central Indiana. Current sites include Danville, Lebanon, Logansport, Monticello and Rushville.

### **EXAMS AVAILABLE INCLUDE:**

1. Cerebrovascular assessment
  - a. Direct visualization (Real-time B-mode ultrasound).
  - b. Indirect tests (Periorbital Doppler exam, spectral analysis).
2. Extremity exams
  - a. Arterial Doppler exam (upper and lower extremities).
  - b. Venous Doppler exam (upper and lower extremities).
  - c. Thoracic outlet Doppler screen.
  - d. Digital mapping (e.g. for evaluation of vasospastic disorders).
  - e. Penile Doppler (evaluation for vasculogenic impotence).
  - f. Post-occlusive lower extremity Doppler exam.

For information regarding examination sites and patient scheduling call (317)-872-4129, outside of Indianapolis call 1-800-662-5367. (Offices of Drs. Gardner, Herring, LeGrand, and Madison). Additional exam sites available.



# PHYSICIANS' DIRECTORY

## OPHTHALMOLOGY



### Indiana Eye Associates COMPLETE MEDICAL, DIAGNOSTIC & SURGICAL OPHTHALMIC SERVICES

- Eye Examinations
- Consultations
- Surgery: Cataract, Implant, Glaucoma, Laser, Pediatric, Plastic, Retinal, Corneal and Refractive
- Contact Lenses: Hard, Soft, Gas Permeable & Extended Wear
- Visual Fields
- Ocular & Endothelial Photography
- Ultrasonography

#### Physicians:

David L. Alvis, M.D.	Jack L. Kane, M.D.
Peter H. Cahn, M.D.	John E. Mitchelson, M.D.
George A. Clark, M.D.	Francis W. Price Jr., M.D.
Parvin D. Gillim, M.D.	George E. Waters Jr., M.D.

Indiana Eye Associates P.C.  
9100 Meridian Square  
50 East 91st Street (at North Meridian)  
Indianapolis, IN 46240  
Phone: (317) 848-1348

## ABDOMINAL SURGERY

### TED W. GRISELL, M.D.

*Providing consultative services  
for physicians throughout Indiana  
for patients with  
complex management problems*

5317 East 16th Street 317-359-8261  
Indianapolis 46218 Phone answered 24 hours

## NEUROLOGY

### SHIRLEY M. MUELLER, M.D. NEUROLOGY

Pain, Headache &  
Diseases of the  
Autonomic Nervous System  
(including testing)

**317-871-6000**

**NORTH:** St. Vincent's Professional Bldg. #726  
**SOUTH:** Greenwood Heights Professional Bldg. #6

### Attention Indiana Physicians

The *Physicians' Directory* is the most ethical and professional method of announcing specialty practice. It is also the most effective medium for listing office location, office hours, and telephone number for the convenience of colleagues in referring patients.

The title of diplomate of a specialty examining board, a requirement for admission to the *Directory*, offers its assurance of qualifications, whether listed or not.

Family physicians may announce office schedules that are reciprocally staggered in order to provide access to evening and weekend and holiday medical service.

In addition to providing benefits to physicians, the *Directory* is a practical means of providing financial support for INDIANA MEDICINE.

All diplomates of the ISMA are invited to enter a professional card in the *Directory*.

# NEWS NOTES

## For the Asking . . .

- "Learning to Live with Hypertension" is the title of a 76-page book published by Pfizer Pharmaceuticals. It is available to physicians and other health care providers for free distribution to patients. The book provides medically accurate and readily understandable information about the nature and treatment of hypertension, written in language suitable for patient reading. It may be obtained free of charge from PIP, P.O. Box 3852X, Grand Central Station, New York, N.Y. 10163.

- "When School's Out and Nobody's Home" is a book just published by the National Committee for Prevention of Child Abuse. The book, prepared by three authors, each of whom offers excellent credentials, is much more than a description of the problem. It is also a compendium of resources for parents and other adult care providers to improve the lot of children who are in self-care. Single copies are \$4 each. An accompanying 16-page booklet, "I Hear You," was written by Thomas Gordon, a clinical psychologist; the text and illustrations explain how to originate and preserve proper parent-child communications. Single copies are \$2 each. Contact NCPA, 332 S. Michigan Ave., Suite 950, Chicago 60604—(312) 663-3520.

- Nutrition is one of the buzzwords in medicine today. In response to requests from physicians for more patient information literature on nutrition, the AMA has prepared a set of five booklets, which can be ordered in any quantity desired. The titles are The Healthy Approach to Slimming, Sodium and Your Health, Vitamin-Mineral Supplements and Their Correct Use, Your Age and Your Diet, and Foodborne Illness-The Consumer's Role in Its Prevention. The pamphlets are sold only in sets. Orders of 5 to 49 sets are \$3.50 per set, while orders of 50 or more sets are \$1.50 per set. AMA members receive a 10% discount. Write Book & Pamphlet Fulfillment OP-154, AMA, P.O. Box 10946, Chicago 60610.

- The Journal of Clinical Engineering (JCE) has just published the results of the first major survey of the biomedical and clinical engineering departments of U.S. hospitals. The national survey was conducted by the JCE in cooperation with the Joint Commission on Accreditation of Hospitals. The January-February issue details wages and job responsibilities. The May-June issue will detail department budgets, staffing, quality control, department organization, benefits, and departmental responsibilities. Each report is available for \$15—\$30 for both reports. Contact Quest Publishing Co., 1351 Titan Way, Brea, Calif. 92621—(712) 738-6400.

- "Hospital-Physician Joint Ventures" is the Focus of the January 1986 issue of "The Medical Practice Letter." To quote the initial paragraph: "Joint ventures have been defined as the coming together of two or more institutions combining distinct competences to provide a product or service. The capabilities of each organization must complement the other to create a 'win-win' situation. A joint venture undertaking by definition requires compromise. . . ." Back issues of the newsletter sell for \$12. The address is P.O. Box 8087, New Haven, Conn. 06530.

- Patients who survived poliomyelitis in the 1940s and 1950s have special health problems that are discussed in publications available from the Gazette International Networking Institute. These patients' health problems include the effects of elder age, muscle and joint pain, muscle weakness, unaccustomed fatigue and breathing difficulties. Among the Institute's publications on the subject is the "Handbook on the Late Effects of Poliomyelitis for Physicians and Survivors," which sells for \$6 postpaid. The address is G.I.N.I., 4502 Maryland Ave., St. Louis, Mo. 63108.

- "Freedom from Pain" is a new booklet prepared by the Upjohn Company. As many as 90 million Americans, at some point in their lives, experience or have experienced chronic pain of more duration than "a little while." Such pain is individually upsetting and sometimes results in significant anxiety or depression. It also disrupts family life and ability to do the job well. It is now known that pain relief by drugs is not the only relief and, over a period of time, is not a satisfactory answer. The new booklet offers sound advice and a positive approach. 50¢ each. Write Freedom from Pain, P.O. Box 307, Coventry, Conn. 06238.

## \$17.2 Million Awarded to Support AIDS Program

The Robert Wood Johnson Foundation is supporting a \$17.2 million, 10-city, AIDS Health Services Program. The contemplated services include more specialized medical service, more humane considerations and less costly care.

Hospitals, local health agencies, major voluntary organizations or a consortium of health care organizations in the 21 metropolitan areas with the largest AIDS case loads are eligible to apply. No cities in Indiana are in this group.

The AIDS Health Services Program is modeled, in part, after a successful approach currently operating in San Francisco.

## MSD to Market 2 Drugs for ADD-Vantage System

Abbott Laboratories announces another addition, the 12th, to the list of pharmaceutical manufacturers who market appropriate products suitable for administration by Abbott's new *ADD-Vantage* I.V. drug admixture system.

Merck Sharp & Dohme will market Mefoxin, a leading I.V. antibiotic in the United States, and Primaxin, a new extremely broad-spectrum antibiotic, in appropriate vials.

*Add-Vantage* is designed for the intermittent I.V. administration of potent drugs that do not have long-term stability in solution. The system received FDA approval in September.



# NEWS NOTES

## Here and There . . .

Dr. Victor P. Matibag of Jeffersonville has been named medical director of Clark County Memorial Hospital's new inpatient rehabilitation care unit.

Dr. David W. Haines of Warsaw has been reappointed to a four-year term as Kosciusko County health officer.

Dr. Wesley A. Kissel of Indianapolis has been named director of medical services for South Central Community Mental Health Centers.

Dr. William D. Province II of Franklin is the new medical director of the Franklin Healthcare Center; he succeeded his father, Dr. William D. Province, who retired after eight years as director.

Dr. John T. King of Merrillville is the new president of the medical staff, St. Anthony Medical Center; Dr. Ernest C. Mirich is president-elect, Dr. Oscar DeLaPaz is secretary, and Dr. Veera Porapaiboon is treasurer.

Dr. Stephen L. Cole of Auburn has been elected chief of the medical staff, DeKalb Memorial Hospital; Dr. Michael K. Webb is vice-president, and Dr. James E. Buchanan is secretary.

Dr. Clarence G. Clarkson, a Liberty family physician, is being joined in his practice by his son, Dr. John Clarkson; the younger Clarkson will complete a three-year residency at Ball Memorial Hospital in June.

Dr. Steven C. Paschall of Danville, medical director of emergency services

at Hendricks County Hospital, discussed emergency care during the recent annual meeting of Meals-on-Wheels of Hendricks County.

Dr. Garnet R. Harris of Danville is addressing the special health concerns of women during monthly forums at the Family Health Care center, Danville.



Dr. Pletzer

Dr. Arden C. Pletzer of Noblesville has been named medical director of Crossroads Rehabilitation Center, Indianapolis; she served her residency in physical medicine and rehabilitation at Ohio State University, where she was chief resident.

Dr. R. Kelly Chambers of Anderson discussed "Women and Heart Disease" during Community Hospital's monthly Women and Health Program in February.

Dr. Charles R. Ellis, a Bloomington pathologist, discussed the transmission of AIDS and hepatitis B during a February seminar for EMTs, paramedics, police officers and firefighters.

Dr. Harley P. Palmer, a Franklin pathologist, discussed AIDS during a February public forum at Morgan County Memorial Hospital.

Dr. Robert A. McDougal of Danville discussed infectious respiratory diseases at a February meeting of the Hendricks County Hospital Respiratory Health Club.

Dr. Francis A. Ferry of Indianapolis has been appointed medical director of the Beech Grove Healthcare Center.

Dr. Richard W. Newcomb of Gary was guest speaker at a recent meeting at Our Lady of Mercy Hospital of the Allergy and Asthma Support Group.

Dr. Jane Howard, an Indianapolis cardiologist, discussed the impact of stress at a February meeting of the Boone County Heart Association.

Dr. Raymond E. Markham Jr. of Indianapolis discussed chemotherapy at a February meeting of the Hendricks County Hospital Ostomy Support Group.

Dr. Stephen W. Perkins of Indianapolis recently lectured on face lift, chemical peel and dermabrasion at the American Academy of Facial Plastic and Reconstructive Surgery Soft Issue Seminar in Chicago.

Dr. John G. Crane of Beech Grove has been inducted as a fellow of the 12,000-member American Academy of Orthopaedic Surgeons.

Dr. Feliciano Jimenez of Munster is the new president of the medical staff at Our Lady of Mercy Hospital; Dr. Michael S. Larson is president-elect, Dr. Gloria Galante is secretary, and Dr. I. W. Chang is treasurer.

Dr. Martin J. O'Neill of Valparaiso, a former ISMA president who is presently an AMA alternate delegate, has been named a life member of the American College of Emergency Physicians.

## CME Quiz . . .

CONTINUED FROM PAGE 373

8. The treatment of mycosis fungoides
  - a) is routine because early diagnosis is a rule
  - b) significantly alters the course of the disease
  - c) is enhanced by the addition of an oral antifungal drug to the regimen
  - d) depends on the stage of the disease at the time of diagnosis
9. Electron beam therapy
  - a) may result in sustained remissions of early disease
  - b) results in necrosis of the epidermis with regeneration of disease free skin from hair follicles
  - c) is usually given in a total dose of

- 10,000 rads total body fractionated over one week
  - d) is clearly superior to all other treatment modalities, regardless of the stage of the disease
10. Topical nitrogen mustard
  - a) is employed chiefly in late, tumor stage disease
  - b) should not be employed because of the risk of contact sensitization
  - c) is clearly superior to electron beam therapy for late plaque stage mycosis fungoides
  - d) in aqueous or ointment vehicles has been shown to be equally as effective as electron beam in the treatment of early disease



# Indiana Court Rules Pharmacy Had No Duty To Warn of Drug Hazard

A pharmacy had no duty to warn a patient of the hazards associated with a drug where there were no warnings written on the prescription by the physician, an Indiana appellate court has ruled.

The patient received a prescription for Valium from his treating physician. The prescription was filled exactly as ordered by the treating physician. The label on the drug contained all instructions or warnings for use that were ordered by the treating physician. However, the pharmacist did not provide the patient with any warnings, either verbally or in writing, concerning possible adverse reactions or side-effects associated with Valium.

Ten days later while at work, the patient experienced an adverse reaction to a Valium tablet and fell from a ladder, fracturing his leg. In an action against the pharmacy, he complained that it had negligently failed to warn him of side-effects, including dizziness, drowsiness, and syncope, and had failed to advise him to avoid working near machinery, and had failed to add those warnings to the label on the drug.

On a summary judgment motion, the trial court said that the pharmacist had

no legal duty in the filling of the prescription to warn the patient of the qualities and characteristics of the drug, in the absence of any such warning statements on the prescription by the physician. Affirming that decision, the appellate court said that the issue of the pharmacist's duty to warn patients was a question of law that was appropriate to be decided on a summary judgment motion. The court said that there was no indication in Indiana's statutes of a mandatory duty on the part of a pharmacist to warn a patient of all possible hazards associated with the drug.

Citing cases from other jurisdictions,

the court said that the duty to warn of hazards associated with prescription drugs was part and parcel of the physician-patient relationship. The decision of weighing the benefits of the medication against potential dangers associated with it required an individualized medical judgment. The court said that the better rule was the one that placed the duty to warn of the hazards of the drug on the prescribing physician and required the pharmacist only to include those warnings found on the prescription itself.—*Ingram v. Hook's Drugs, Inc.*, 476 N.E.2d 881 (Ind. Ct. of App., April 16, 1985) (Courtesy of The Citation, Feb. 1, 1986)

# ACP Establishes Annual Communications Award

The American College of Physicians has established the annual Lewis Thomas Award for Communications to honor outstanding individual contributions to public information about science. It will be awarded in the first instance to Dr. Lewis Thomas, for many years president of the Memorial Sloan-Kettering Cancer Center, and now its president emeritus.

Dr. Thomas' four books—*The Lives of a Cell*, *The Medusa and the Snail*, *The Youngest Science: Notes of a Medicine Watcher*, and *Late Night Thoughts on Listening to Mahler's Ninth Symphony*—are all well known and widely read. Lewis Thomas is famous for his ability to explain biological science in plain language easily understood by laymen.

The award will be bestowed during the College's annual session in San Francisco in April.

# Physician Recognition Awards

The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned, and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.



Atkins, Clayton H., Greenwood  
Campbell, Betty J., Terre Haute  
Cook, Ian H., Fort Wayne  
Dahling, Fred W., New Haven  
Deitch, Robert D., Carmel  
Dragomer, Andrei S., Munster  
Dye, William E., Oakland  
Fessler, Gordon S., Aurora  
Gillespie, Douglas B. Jr., Terre Haute  
Gordon, Irene M., Lafayette

Guttman, John B., Wakarusa  
Hirons, W.T., Richmond  
Ho, Gloria R., Terre Haute  
Johnson, John C., Crown Point  
Kingma, Roy E., Demotte  
Lee, Randall A., Martinsville  
McDaniel, J. Mark, Zionsville  
Morton, Philip M., Indianapolis  
Ochsner, Edward C., Danville  
Reddy, R. Venkata, Indianapolis  
Reimers, Roger A., Bloomington

Robison, Roger F., Terre Haute  
Rogers, Susan J., Marion  
Schneider, Louis A., Fort Wayne  
Sepehri, Bharam, New Albany  
Shah, Rekha B., Munster  
Siebe, Jack C., Merrillville  
Stanford, John R., Fort Wayne  
Stoltzfus, Virgil D., Valparaiso  
Thurston, Floyd E., Shelbyville  
Troyer, Ted E. Jr., Evansville

# NEWS NOTES

## New ISMA Members

The following physicians were welcomed in February as new members of the Indiana State Medical Association:

A. M. Aref, M.D., Evansville, radiology.

Amead Atassi, M.D., Merrillville, general surgery.

Michael S. Beede, M.D., Evansville, internal medicine.

E. Dick L. Bennett, M.D., Knox, anesthesiology.

Debra A. Carter-Bluiett, M.D., Indianapolis, family practice.

Paul R. Cook, M.D., Evansville, otorhinolaryngology.

Steven R. Dryden, M.D., Indianapolis, anesthesiology.

David A. Dudley, M.D., Indianapolis, gastroenterology.

Steven D. Folkerth, M.D., Evansville, internal medicine.

Alan H. Friedman, M.D., Indianapolis, anesthesiology.

S. Douglas Greeson, M.D., Evansville, emergency medicine.

Gregory H. Henderson, M.D., Indianapolis, anesthesiology.

Claude A. Johnson, M.D., Indianapolis, family practice.

Marlon D. Jordan, M.D., Evansville, cardiovascular diseases.

Alireza Khonsari, M.D., Wabash, radiology.

Hyun S. Kim, M.D., Merrillville, anesthesiology.

Carolyn G. Kochert, M.D., Lafayette, anesthesiology.

Woodrow A. Myers, M.D., Indianapolis, internal medicine.



Sadi Oguz, M.D., Richmond, psychiatry.

Bella J. Prospero, M.D., Calumet City, internal medicine.

Joy O. Stephenson-Diehl, M.D., Monticello, general practice.

Joseph J. Vukovich, M.D., Evansville, emergency medicine.

Richard Walter, D.O., Vincennes, gastroenterology.

## Residents:

David M. Hayes, M.D., Evansville, family practice.

Matthew A. Keefer, M.D., Indianapolis, anesthesiology.

Sandra G. Mendel, M.D., Indianapolis, internal medicine.

## Plans Announced for New Health Education Center

Plans are underway to build a \$4 million health education center in Indianapolis on land donated by Methodist Hospital of Indiana.

The "Life/Leadership Health Education Center" will be designed to serve 100,000 students and adults annually by providing programs in general health and nutrition, drug abuse prevention, and family living. The center will feature electronic exhibits and be staffed by full-time teachers.

The project was conceived by six Indianapolis service clubs—Exchange, Kiwanis, Lions, Optimists, Rotary and Sertoma. The center is targeted for opening in the fall of 1987.

Additional information is available from the Life/Leadership Development Office, 1812 N. Meridian St., Indianapolis 46202—(317) 923-6449.

## 'Shortness of Breath' Teaching Film Available

The American College of Physicians has added another teaching film to the HEALTHSCOPE film series. The latest one is titled "Shortness of Breath." The other films are "Aches, Pains and Arthritis," "Chest Pains," "Diabetes" and "Stomach Pains."

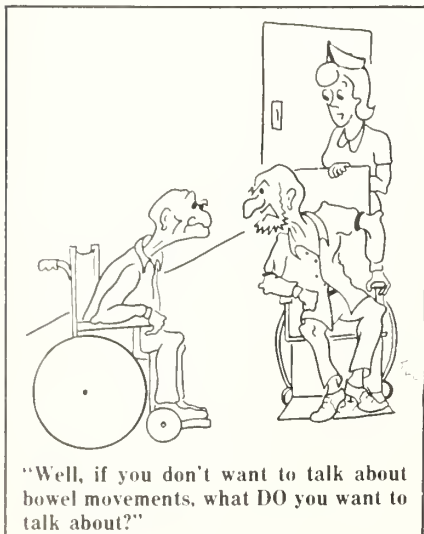
The films may be obtained FREE on loan or purchased by calling the national office of the ACP at (800) 523-1546. The films are currently being shown to civic and social groups, business and industry, schools and on television. When placing an order, allow four to five weeks lead time and specify a date two days in advance of the actual showing.

All HEALTHSCOPE films are available in 16mm film,  $\frac{3}{4}$ ",  $\frac{1}{2}$ " VHS, and  $\frac{1}{2}$ " Beta 1 and Beta 2 videotape formats. The films are produced by the ACP under an educational grant from The Upjohn Company.

## Researcher Gets \$360,000 to Study New Aspects of Alzheimer's Disease

Dr. Bruce L. Miller, a UCLA assistant professor and scientific coordinator for the John Douglas French Foundation for Alzheimer's Disease, will receive a \$360,000 research grant from the National Institute on Aging to study Alzheimer's disease.

His work will center on abnormal metabolism of the compound choline in the red blood cells of Alzheimer's disease patients. He will seek to determine if this abnormal metabolism could predispose certain individuals to the disease.





# TIPTON COHEN & KOCH

Attorneys at Law  
Morrison Opera Place  
Suite 200  
47 South Meridian Street  
INDIANAPOLIS, INDIANA 46204  
(317) 634-6550

## Consents and Guidelines:

Operative Consents  
Ambulatory Surgery and  
Anesthesia Guidelines  
Policies and Procedures  
for Patient Care

## Medical Malpractice Defense:

Litigation  
Risk Management



## Patient Account Collection:

Self Pay  
Private Insurance  
Medicaid  
Medicare  
Hospital Care for Indigent  
Crippled Children's

JOE TIPTON, J.D. STEVEN J. COHEN, J.D. EDNA M. KOCH, R.N., J.D.



## HEALTH CARE AT ITS BEST: AIR FORCE MEDICINE

Air Force medicine is one of our best benefits, and, with your help, we'll keep it that way. The Air Force needs physicians such as you to become members of our health care team.

Most administrative responsibilities are in the hands of others, giving our physicians the time to give their full attention to the patients' needs. Our hospitals are staffed with dedicated, competent professionals.

You'll find you will have time for your family, and to keep abreast of the latest methods and technologies that you don't have time for now. We also offer unlimited professional development and financial security.


If you're considering a change, consider Air Force medicine. To find out more about Air Force medicine, contact your nearest Air Force recruiter. Experience health care at its best.

Capt. Scott Simpson

SSgt. Ernie Williams

SSgt. Bill Turner

317-269-6164 or 6354 collect

**AIR  
FORCE**   
A great way of life.



# THE INDIANA STATE MEDICAL ASSOCIATION

## OFFICERS

President—Paul Siebenmorgen, Terre Haute  
 Pres elect—Shirley Khalouf, Marion  
 Immed Past Pres—Lawrence E. Allen, Anderson  
 Executive Director—Kenneth Bush, Indpls  
 Treasurer—George H. Rawls, Indpls  
 Asst. Treas.—Max Wesemann, Franklin  
 Speaker—Fred W. Dahling, New Haven  
 Vice Speaker—C. Dyke Egnatz, Schererville

## EXECUTIVE COMMITTEE

\*Paul Siebenmorgen, Terre Haute  
 Shirley Khalouf, Marion  
 Lawrence E. Allen, Anderson  
 George H. Rawls, Indpls  
 Max Wesemann, Franklin  
 John D. MacDougall, Beech Grove  
 Fred W. Dahling, New Haven  
 C. Dyke Egnatz, Schererville  
 Mark M. Bevers, Seymour  
 Michael Mellinger, LaGrange

## TRUSTEES (Terms end in October)

District  
 1—E. DeVerre Gourieux, Evansville (1986)  
 2—Paul J. Wenzler, Bloomington (1987)  
 3—Thomas A. Neathamer, Jeffersonville (1988)  
 4—Mark M. Bevers, Seymour (1986)  
 5—Benny Ko, Terre Haute (1987)  
 6—Clarence G. Clarkson, Richmond (1988)  
 \*7—John D. MacDougall, Beech Grove (1986)  
 7—William H. Beeson, Indianapolis (1987)  
 8—William C. VanNess II, Summitville (1987)  
 9—Max N. Hoffman, Covington (1988)  
 10—Nicholas L. Polite, Hammond (1986)  
 11—Edward L. Langston, Flora (1987)  
 12—Michael O. Mellinger, LaGrange (1988)  
 13—Steven M. Yoder, Goshen (1986)  
 RMS—John Terry, Indianapolis (1986)

\*Chairman

## ALTERNATE TRUSTEES (Terms end in October)

District  
 1—Bruce W. Romick, Evansville (1988)  
 2—Jerome E. Melchior, Vincennes (1986)  
 3—Richard G. Huber, Bedford (1986)  
 4—William E. Cooper, Columbus (1988)  
 5—Fred E. Haggerty, Greencastle (1988)  
 6—Ray A. Haas, Greenfield (1986)  
 7—Donna J. Meade, Indianapolis (1988)  
 7—Michael B. DuBois, Indianapolis (1988)  
 8—Douglas A. Triplett, Muncie (1988)  
 9—R. Adrian Lanning, Noblesville (1986)  
 10—Frank M. Sturdevant, Valparaiso (acting)  
 11—Jack W. Higgins, Kokomo (1986)  
 12—Thomas A. Felger, Fort Wayne (1986)  
 13—Michael H. Thomas, Elkhart (1988)  
 RMS—Mark Bradley, Indianapolis (1986)

## AMA DELEGATES (Terms end Dec. 31)

Everett E. Bickers, Floyds Knobs (1986)  
 Malcolm O. Scamahorn, Pittsboro (1986)  
 Gilbert M. Wilhelmus, Evansville (1986)  
 Marvin E. Priddy, Fort Wayne (1987)  
 Peter R. Petrich, Attica (1987)  
 Thomas C. Tyrrell, Hammond (1987)

## AMA ALT. DELEGATES (Terms end Dec. 31)

Alvin J. Haley, Carmel (1986)  
 John A. Knote, Lafayette (1986)  
 Robert M. Seibel, Nashville (1986)  
 Martin J. O'Neill, Valparaiso (1987)  
 Herbert C. Khalouf, Marion (1987)  
 Vincent J. Santare, Munster (1987)

## DISTRICT OFFICERS AND MEETINGS

1—Pres: Jeffrey C. Rendel, Jasper  
 Secy: Syed A. Ali, Boonville  
 Annual Meeting: 1986, Evansville  
 2—Pres: Frederick R. Ridge Jr., Linton  
 Secy: Harry Rotman, Jasonville  
 Annual Meeting:  
 3—Pres: Gordon L. Gutmann, Jeffersonville  
 Secy: Olegario J. Ignacio, Jeffersonville  
 Annual Meeting: 1986, Jeffersonville  
 4—Pres: Rosemary E. Weir, Brownstown  
 Secy: Charles Calhoun, Seymour  
 Annual Meeting: May 7, 1986, Seymour  
 5—Pres: J. F. Swaim, Rockville  
 Secy: Peggy S. Swaim, Rockville  
 Annual Meeting: June 4, 1986, Terre Haute  
 6—Pres: Douglas Carter, Shelbyville  
 Secy: William Nesbitt, Connersville  
 Annual Meeting:  
 7—Pres: John M. Records, Franklin  
 Secy: Marshall H. Trusler, Indianapolis  
 Annual Meeting:  
 8—Pres: Conrado R. Miranda III, Winchester  
 Secy: Jerome M. Leahey, Union City  
 Annual Meeting: June 4, 1986, Delaware  
 9—Pres: Walter P. Beaver, Noblesville  
 Secy: Dennis L. Pippenger, Noblesville  
 Annual Meeting: June 11, 1986, Noblesville  
 10—Pres: Frank M. Sturdevant, Valparaiso  
 Secy: Barron M. Palmer, Hammond  
 Annual Meeting: Sept. 25, 1986, Valparaiso  
 11—Pres: Michael Ball, Marion  
 Secy: Fred Poehler, LaFontaine  
 Annual Meeting: Sept. 17, 1986, Marion  
 12—Pres: Antonio Donesa, Fort Wayne  
 Secy: Thomas Smith, New Haven  
 Annual Meeting: Sept. 18, 1986, Fort Wayne  
 13—Pres: Michael Thomas, Elkhart  
 Secy: Thomas J. Eberts, South Bend  
 Annual Meeting: Sept. 10, 1986, Elkhart

## COMMISSION CHAIRMEN

Constitution & Bylaws  
 Lloyd L. Hill, Peru  
 Legislation  
 Edward L. Langston, Flora  
 Physician Impairment  
 Larry M. Davis, Indianapolis  
 Public Relations  
 R. Adrian Lanning, Noblesville  
 Medical Services  
 Michael O. Mellinger, LaGrange  
 Convention Arrangements  
 B. Diane Wells, Spencer  
 Medical Education  
 Franklin A. Bryan, Fort Wayne  
 Sports Medicine  
 Ronald G. Blankenbaker, Indianapolis

## COMMITTEE CHAIRMEN

Negotiations  
 John A. Knote, Lafayette  
 Medical Education Fund  
 John W. Beeler, Indianapolis  
 Grievance  
 G. Beach Gattman, Elkhart  
 Future Planning  
 W.C. Van Ness II, Alexandria  
 Medico-Legal  
 John W. Beeler, Indianapolis  
 Indiana Medical Foundation  
 Frank B. Ramsey, Indianapolis  
 Reduce Drunk Driving  
 Michael DuBois, Indianapolis

## SECTION OFFICERS

ANESTHESIOLOGY  
 Chmn: Steven R. Young, Carmel  
 Secy: Donald L. Weninger, Michigan City  
 CUTANEOUS MEDICINE  
 Chmn: Donald W. Smith, South Bend  
 Secy: Mary C. Greist, Indianapolis  
 DIRECTORS OF MEDICAL EDUCATION  
 Chmn: Glenn D. Baird, Evansville  
 Secy: Thomas P. Dunfee, South Bend  
 EMERGENCY MEDICINE  
 Chmn: Kenneth L. DeHart, Kokomo  
 Secy: Eve Olson, Indianapolis  
 FAMILY PRACTICE  
 Chmn: Bernard J. Emkes, Indianapolis  
 Secy: William C. Spence, Knightstown  
 INTERNAL MEDICINE  
 Chmn: Dennis E. Stone, Columbus  
 Secy: Robert L. Rudesill, Indianapolis  
 MEDICAL DIRECTORS & STAFF  
 PHYSICIANS OF NURSING FACILITIES  
 Chmn: Hugh K. Thatcher, Indianapolis  
 Secy: Ivan T. Lindgren, Aurora  
 NEUROLOGY  
 Chmn: Charles A. Bonsett, Indianapolis  
 (Pro Tem)  
 Secy:  
 NEUROLOGICAL SURGERY  
 Chmn: Daniel F. Cooper, Indianapolis  
 Secy: Marvin R. Bernard, Merrillville  
 NUCLEAR MEDICINE  
 Chmn:  
 Secy: Aslam R. Siddiqui, Indianapolis  
 OBSTETRICS & GYNECOLOGY  
 Chmn: J. Robert Stanley, Muncie  
 Secy: William E. Graham, Fort Wayne  
 OPHTHALMOLOGY  
 Chmn: Forrest Ellis, Indianapolis  
 Secy: Gerald Keener, Indianapolis  
 ORTHOPAEDIC SURGERY  
 Chmn: Ben Woodward, Evansville  
 Secy: Wade Rademacher, Beech Grove  
 OTOLARYNGOLOGY, HEAD & NECK  
 SURGERY  
 Chmn: William E. Cooper, Columbus  
 Secy: Richard T. Miyamoto, Indianapolis  
 PATHOLOGY & FORENSIC MEDICINE  
 Chmn: Merritt O. Alcorn, Madison  
 Secy: Arthur C. Jay, Columbus  
 PEDIATRICS  
 Chmn: Michael A. Hogan, Indianapolis  
 Secy: Kenneth C. Castor, Fort Wayne  
 PREVENTIVE MEDICINE & PUBLIC  
 HEALTH  
 Chmn: Jane M. Irmischer, Fort Wayne  
 Secy: Francis B. Warrick, Richmond  
 PSYCHIATRY  
 Chmn: Philip M. Coons, Indianapolis  
 Secy: Cherry G. Friedman, Noblesville  
 RADIOLOGY  
 Chmn: Robert W. Holden, Plainfield  
 Secy: Richard L. Pitman, Columbus  
 SURGERY  
 Chmn: John D. Pulcini, Evansville  
 Secy: Ted W. Grisell, Indianapolis

## ISMA KEY STAFF PERSONNEL

Kenneth Bush, Acting Executive Director  
 Michael Huntley—Assoc Exec Director  
 Richard King—Attorney, IMPAC, Lobbyist,  
 Assoc Exec Director  
 Ronald Dyer—Attorney, Assoc Exec Director  
 John Wilson—Accountant  
 Adele Lash—Communications  
 Howard Grindstaff—Field Services  
 Sara Klein—Field Services  
 Bob Sullivan—Field Services, AMA Relations  
 Mary Alice Cary—Executive Assistant  
 Rosanna Iler—Membership, Auxiliary  
 Beckett Shady King—CME, Travel, House of  
 Delegates  
 Karyl Hancock—Convention Coordinator,  
 Meetings  
 Tom Martens—Members' Health Insurance  
 Carol Ann Cunningham—Resident Medical  
 Society, Specialty Society Services  
 Martin Badger—INDIANA MEDICINE

# Commissions

## MEDICAL SERVICES

### Dist.

- 1— L. Ray Stewart, Evansville
- 2— Thomas M. Turner, Vincennes
- 3—
- 4— Gerald T. Bowen, Lawrenceburg
- 5— Ludimere Lenyo, Terre Haute
- 6— Ordonio Reyes, Rushville
- 7— Donna Meade, Indianapolis
- 7— William H. Beeson, Indianapolis
- 8— John Tharp, Muncie
- 9— Dallas Coate, Lebanon
- 10— Creighton Rawlings, Munster
- 11— Joseph Davis, Marion
- 12 \* Michael Mellinger, LaGrange
- 13— Charles Alfred Cox, South Bend
- AL— Dwight Schuster, Indianapolis
- AL— H. Marshall Trusler, Indianapolis
- RMS— Julian Heitz, Indianapolis

## CONVENTION ARRANGEMENTS

### Dist.

- 1— Albert Ritz, Evansville
- 2 \* B. Diane Wells, Spencer
- 3— Donald D. Donner, Bedford
- 4— John Hossler, Madison
- 5— James Franklin Swaim, Rockville
- 6— James Lewis, Richmond
- 7— Charles O. McCormick, Franklin
- 7— Bernard Emkes, Indianapolis
- 8— Arthur Jay, Parker
- 9— Barbara Bourland, Lafayette
- 10— Nicholas Polite, Whiting
- 11— Jack Higgins, Kokomo
- 12— John Wallace, Fort Wayne
- 13— James Grainger, South Bend
- AL— Stanley Chernish, Indianapolis
- AL— Glenn Bingle, Indianapolis
- AL— Garry Bolinger, Indianapolis
- RMS— John Terry, Indianapolis

## CONSTITUTION AND BYLAWS

### Dist.

- 1— Ray Burnikel, Evansville
- 2— William Cutshall, Bloomington
- 3— Donald Kerr, Bedford
- 4— Robert Forste, Columbus
- 5— William Strecker, Terre Haute
- 6— James Swonder, Richmond
- 7— Helen Czenkusch, Indianapolis
- 7— Bryan T. Burney, Indianapolis
- 8— Drew Carrel, Anderson
- 9— Gilbert Gutwein, Lafayette
- 10— Frank Sturdevant, Valparaiso
- 11 \* Lloyd Hill, Peru
- 12— George Babcock, Bluffton
- 13— Steven Yoder, Syracuse
- AL— Richard Schaphorst, Mishawaka
- RMS— Mark Bradley, Indianapolis

## LEGISLATION

### Dist.

- 1— Bryant Bloss, Evansville
- 2— David Johnloz, Bloomington
- 3— Mark Bickers, Flays Knobs
- 4— Alan R. Kohlhaas, Lawrenceburg
- 5— Enrico I. Garcia, Terre Haute
- 6— Wylie McGlothlin, New Castle
- 7— Steven R. Young, Carmel
- 7— Eugene G. Roach, Beech Grove
- 8— Jack Walker, Muncie

\*INDICATES CHAIRMAN

- 9— Ben Park, Lebanon
- 10— Thomas A. Brubaker, Munster
- 11 \* Edward Langston, Flora
- 12— Fred Dahling, New Haven
- 13— Luis Galup, South Bend
- AL— Paul Wenzler, Bloomington
- AL— John Pless, Bloomington
- AL— Rex Wieland, North Manchester
- RMS— Mark Hochstetler, Indianapolis

## SPORTS MEDICINE

### Dist.

- 1— James Rang, Evansville
- 2— Daniel J. Combs, Vincennes
- 3— William Sligar, Jeffersonville
- 4— Larry Olson, Columbus
- 5— Robert Burkle, Terre Haute
- 6— Alois Gibson, Richmond
- 7— William Beeson, Indianapolis
- 7— Frank Wilson, Indianapolis
- 8— Robert McCurdy, Anderson
- 9— George Underwood, Lafayette
- 10— Randall C. Morgan, Jr., Gary
- 11— John W. Kennedy, Marion
- 12— Garland Anderson, Fort Wayne
- 13— Leslie Bodnar, South Bend
- AL— David Bankoff, South Bend
- AL— \*Ronald Blankenbaker, Indianapolis
- AL— Gary Prah, Lafayette
- RMS— Daniel Walters, Muncie

## PROFESSIONAL & TECHNICAL ADVISORY SUBCOMMISSION ON SPORTS MEDICINE

- Henry Feuer, Indianapolis  
 Philip N. Eskew, Indianapolis  
 George Rapp, Indianapolis  
 Tom Brady, Indianapolis  
 Donald Shelbourne, Indianapolis  
 Alan Habansky, Muncie  
 Donald Wilson, Indianapolis  
 John McCarroll, Indianapolis  
 Arthur Rettig, Indianapolis  
 Polly Nicely, Indianapolis  
 Robert Stephens, Indianapolis  
 Bryant Bloss, Evansville  
 Steven Ahlfeld, Indianapolis

## PUBLIC RELATIONS

### Dist.

- 1— Elizabeth Sowa, Evansville
- 2— James Beck, Washington
- 3— Gordon Gutmann, Jeffersonville
- 4— George Weir, Brownstown
- 5— Michael McCrea, Terre Haute
- 6— Michael Hinshaw, Richmond
- 7— Freeman Martin, Indianapolis
- 7— Randolph W. Lievertz, Indianapolis
- 8— Jack Walker, Muncie
- 9 \* R. Adrian Lanning, Noblesville
- 10— Daniel T. Ramker, Hammond
- 11— Michael Ball, Marion
- 12— Edwin Stumpf, New Haven
- 13— Donald Smith, South Bend
- AL— John Osborne, Muncie
- AL— Logan Dunlap, South Bend
- RMS— Lana Patch, Beech Grove

## PHYSICIAN IMPAIRMENT

### Dist.

- 1— Steven Folkerths, Evansville
- 2— Donald Snider, Vincennes

- 3— Cesar Archangel, Jeffersonville
- 4— George Alcorn, Madison
- 5— John S. Murray, Terre Haute
- 6— Clarence Clarkson, Richmond
- 7— Thomas Lunsford, Indianapolis
- 7— Thomas Moran, Indianapolis
- 8— Joe Copeland, Anderson
- 9— Phillip Rothrock, Lafayette
- 10— Felix Millan, Munster
- 11— Laurence K. Musselman, Marion
- 12— Wallace Van Den Bosch, Bluffton
- 13— Duncan Carter, Elkhart
- AL— \*Larry Davis, Indianapolis
- AL— Harold Nichols, Indianapolis
- AL— Fred Blix, Indianapolis
- RMS— Paul Daluga, Indianapolis

## MEDICAL EDUCATION

### Dist.

- 1— W. Thomas Spain, Evansville
- 2— Alan Stewart, Vincennes
- 3— Olegario Ignacio, Jeffersonville
- 4— Elton Heaton, Madison
- 5— Arnold Kunkler, Terre Haute
- 6— Frank Adney, Richmond
- 7— Stephen Jay, Indianapolis
- 7— Glenn Bingle, Indianapolis
- 8— R. Kelly Chambers, Anderson
- 9— Stephen Tharp, Frankfort
- 10— Panayotis Iatridis, Gary
- 11— Shokri Radpour, Kokomo
- 12 \* Franklin A. Bryan, Fort Wayne
- 13— Donald Olson, South Bend
- AL— Eugene M. Gillum, Portland
- AL— James Carter, Indianapolis
- AL— Hunter Soper, Indianapolis
- RMS— Tonya Robinson, Indianapolis

## SUB-COMMISSION ON ACCREDITATION

- ISMA Section on Anesthesia  
 Barry Glazer, Zionsville  
 Assn. of Indiana Directors of Medical Education  
 Alan F. Smith, Jr., Bedford  
 ISMA Section on Cutaneous Medicine  
 Robert M. Hurwitz, Indianapolis  
 Indiana Academy of Family Physicians  
 \*Eugene M. Gillum, Portland  
 Indiana Hospital Association  
 Glenn Bingle, Indianapolis  
 ISMA Section on Internal Medicine  
 Stanley Chernish, Indianapolis  
 ISMA Section on OB GYN  
 John Stanley, Muncie  
 ISMA Section on Ophthalmology  
 Elizabeth Sowa, Evansville  
 Indiana Orthopaedic Society  
 Wade Rademacher, Beech Grove  
 ISMA Section on Otolaryngology,  
 Head & Neck Surgery  
 C. William Johnson  
 ISMA Section on Pathology  
 Arthur Jay, Columbus  
 ISMA Section on Pediatrics  
 Helen Czenkusch, Speedway  
 ISMA Section on Psychiatry  
 Alan D. Schmetzer  
 Indiana Roentgen Society  
 Heun Yune, Indianapolis  
 ISMA Section on Surgery  
 J. Edwards, Auburn  
 ISMA Section on Urology  
 James Lingeman, Indianapolis

# Committees

## FUTURE PLANNING

\*William Van Ness II, Alexandria  
John Knot, Lafayette  
Martin J. O'Neill, Valparaiso  
George T. Lukemeyer, Indianapolis  
John Beeler, Indianapolis  
Alvin J. Haley, Carmel  
Lawrence E. Allen, Anderson

## GRIEVANCE

\*G. Beach Gattman, Elkhart  
Anthony Pizzo, Bloomington  
Richard Schnute, Indianapolis  
Gilbert M. Wilhelmus, Evansville

## REDUCE DRUNK DRIVING

\*Michael B. DuBois, Indianapolis  
Davis Ellis, Rushville  
Richard Huber, Bedford  
Larry Davis, Indianapolis  
James McCann, Wabash  
Larry G. Thompson, South Bend  
Gordon Hughes, Muncie

## NEGOTIATIONS

\*John Knot, Lafayette  
Vincent J. Santare, Munster  
Michael O. Mellinger, LaGrange  
Alvin J. Haley, Carmel  
Everett Bickers, Floyds Knobs  
Donald S. Chamberlain, Mishawaka

## MEDICO-LEGAL

\*John Beeler, Indianapolis  
Paul Siebenmorgen, Terre Haute  
J. William Wright Jr., Indianapolis  
John MacDougall, Beech Grove  
Lawrence E. Allen, Anderson

## MEDICAL EDUCATION FUND

\*John Beeler, Indianapolis  
Martin J. O'Neill, Valparaiso  
Everett Bickers, Floyds Knobs  
Joseph B. Davis, Marion  
Charles VanTassel, Jr., Indianapolis  
Nicholas Polite, Hammond  
Walter Daly, Indianapolis (ex-officio)  
ISMA Executive Director (ex-officio)

## GERIATRICS (Ad Hoc)

\*Bill Martz, Brownshurg  
Robert Seibel, Nashville  
A. Alan Fischer, Indianapolis  
Malcolm O. Scamahorn, Pittshoro  
Ben Park, Lebanon  
Daniel J. Combs, Vincennes

## MALPRACTICE ADVISORY (Ad Hoc)

\*J. William Wright Jr., Indianapolis  
Martin J. O'Neill, Valparaiso  
Gilbert M. Wilhelmus, Evansville  
Paul Wenzler, Bloomington  
Eugene F. Senseny, Fort Wayne  
C. Dyke Egnatz, Schererville  
Lawrence E. Allen, Anderson

## INDIANA MEDICAL FOUNDATION, INC.

\*Frank B. Ramsey, Indianapolis  
Herbert C. Khalouf, Marion  
George T. Lukemeyer, Indianapolis  
Paul Siebenmorgen, Terre Haute  
John A. Knot, Lafayette  
Douglas H. White, Indianapolis  
Michael O. Mellinger, LaGrange  
Kenneth Bush, Indianapolis

## IMPAC BOARD OF DIRECTORS

Dist.  
1 - Bryant Bloss, Evansville  
1 - Mrs. Thomas White, Evansville  
2 - Paul Wenzler, Bloomington  
2 - Mrs. Paul Wenzler, Bloomington  
3 - Everett Bickers, Floyds Knobs  
3 - Mrs. B.J. Seligman, Bedford  
4 - Mark Bevers, Seymour  
4 - Mrs. Richard Pitman, Columbus  
5 - Fred Haggerty, Greencastle  
5 - Mrs. William Strecker, Terre Haute  
6 - Davis Ellis, Rushville  
6 - Mrs. Robert Warren, Richmond  
7 - Robert Parr, Indianapolis  
7 - Eugene Roach, Beech Grove  
7 - Mrs. John Pantzer, Indianapolis  
7 - Mrs. Dwight Schuster, Indianapolis  
8 - Richard Reedy, Yorktown  
8 - Mrs. John Stanley, Muncie  
9 - Max Hoffman, Covington  
9 - Mrs. William Miller, Lafayette  
10 - Vincent Santare, Munster  
10 - Mrs. C. Dyke Egnatz, Munster  
11 - James Hall, Logansport  
11 - Mrs. Michael Ball, Marion  
12 - James Rausch, Fort Wayne  
12 - Mrs. Marvin Priddy, Fort Wayne  
13 - Robert Dodd, South Bend  
13 - Mrs. Donald Chamberlain, Mishawaka  
Auxiliary - Mrs. John Stanley

\*INDICATES CHAIRMAN

# County Medical Society Directory

County	District	President	Secretary
Adams	12	John E. Doan, Decatur	Hyung Soo T. Lee, 227 S. Second St., Decatur 46733
Allen (Fort Wayne)		Charles E. Schoenhals, Fort Wayne	B. Trent Cooper, 155 Eighth St., Roanoke 46783
Bartholomew-Brown	12		Mr. Larry L. Pickering, Exec. V.P., 2414 E. State Blvd., Fort Wayne 46805
Benton	4	Robert L. Forste Jr., Columbus	Karl J. McAleese, 1655 N. Gladstone Ave., Columbus 47201
Boone	9	A. L. Coddens, Fowler	Manley K. Scheurich, R.R. 1, Oxford 47971
Carroll	11	Dallas E. Coate, Lebanon	Mary H. Knotts, c/o Sandy Baldwin, 1124 N. Lebanon St., Lebanon 46052
Cass	11	Brian L. Doggett, Delphi	Robert Seese, 101 W. North St., Delphi 46923
Clark	3	Michael S. Liebner, Logansport	Joseph A. Frederick, c/o P.O. Box 897, Logansport 46974
Clay	5	Olegario J. Ignacio Jr., Jeffersonville	Arlene Arnold, Exec. Dir., 1220 Missouri Ave., Jeffersonville 47130
Clinton	9	Everett L. Conrad, Brazil	Rabin Farid, Box 108, Brazil 47834
Daviess-Martin	2	Joseph D. Dominik, Frankfort	Larry G. Schachter, 1201 Oak St., Frankfort 26041
		James P. Beck, Washington	Horace Norton, 325 Knollwood, Washington 47501



# County Medical Society Directory

County	District	President	Secretary
Dearborn Ohio	4	Bruno DePalma, Lawrenceburg	Gordon S. Fessler, 205 Grant St., Aurora, Ohio 47001
Decatur	4	John P. Vincent, Greensburg	Ricardo C. Domingo, Domingo Bldg., Greensburg 47240
DeKalb	12	Mark S. Souder, Auburn	Harland V. Hippensteel, 208 W. 7th St., Auburn 46760
Delaware Blackford	8	George E. Branam, Muncie	Stewart C. Brown, c/o Pam Morris, Ball Mem. Hosp., Muncie 47303
Dubois	3	Robert D. Bretz, Huntingburg	939 Memorial Drive, P.O. Box 723, Jasper 47546
Elkhart	13	George A. Mark, Elkhart	N.S. Lankford, 105 N. Nappanee St., Elkhart 46511
Fayette Franklin	6	William A. Nesbitt, Connersville	Kant K. Patel, 1728 Virginia Ave., Connersville 47331
Floyd	3	Stanley F. Seipel, Lanesville	Daniel H. Cannon, 1201 E. Spring St., New Albany 47150
Fountain Warren	9	Theodore C. Person, Veedersburg	Atee S. Salvo, 403 N. Monroe, Williamsport 47993
Fulton	13	Jamie G. Ramos, Rochester	Steven Musselman, 105 W. Rochester St., Akron 46910
Gibson	1	M. S. Krishna, Princeton	Joyce Carpenter, Gibson General Hospital, Princeton 47670
Grant	11	Teodoro B. Guevara, Marion	Edward A. Buhr, 801 W. Gardner Dr., Marion 46952
Greene	2	Fredrick R. Ridge Jr., Linton	Harry Rotman, 111 E. Main St., Box 185, Jasonville 47438
Hamilton	9	Walter P. Beaver, Noblesville	Dennis L. Pippenger, 497 Westfield Rd., Noblesville 46060
Hancock	6	Thomas M. O'Connor, Greenfield	Trevor T. Lloyd Jones, 15 S. Bittner, New Palestine 46163
Harrison Crawford	3	Bruce E. Burton, Corydon	David J. Dukes, 245 Hospital Drive, Corydon 17112
Hendricks	7	Larry D. Lovall, Danville	Ray D. Howell, P.O. Box 368, Roachville 46172
Henry	6	Paul R. Walker, New Castle	Donald E. Vivian, R.R. 4, Box 6, New Castle 47362
Howard	11	Johnnie Ayers, Kokomo	James E. Whitfield, Jr., 3109 W. Sycamore, Kokomo 46901
Huntington	11	Reeve B. Pearce, Huntington	Nabil A. Gayed, 1496 Gardendale Ave., Huntington 46750
Jackson	4	David R. Stout, Seymour	David W. Laitinen, 100 N. Walnut, Seymour 47274
Jasper	9	Robert C. Kaye, Rensselaer	Robert E. Darnaby, 1103 E. Grace St., Rensselaer 47978
Jay	8	J.C. Hutchinson, Dunkirk	Stephen R. Myron, 430 W. Votaw St., Portland 47371
Jefferson-Switzerland	4	W. R. Rucker, Madison	Paul W. Cronen, Jr., 703 A Green Road, Madison 47250
Jennings	4		John B. Schuck, Doctors' Park #2, 311 Henry St., North Vernon 47265
Johnson	7	Craig A. Moorman, Franklin	David R. Wippermann, 1101 W. Jefferson St., #C, Franklin 46131
Knox	2	James R. Felts, Vincennes	Michael B. Dulin, 502 American Bank Bldg., Vincennes 47591
Kosciusko	13	Thomas F. Keough, Warsaw	Mark A. Jensen, 2229 DuBois Dr., Warsaw 46580
LaGrange	12	John A. Egli, Topeka	Millard R. Taylor, Box 188, Howe 46746
Lake	10	Barron M. Palmer, Hammond	George J. Volan, 500 W. Lincoln Way 30, Merrillville 46410
LaPorte	13	Alfred A. Serritella, LaPorte	Dan R. Hill, Exec. Dir., 1205 W. Lincoln Hwy., #7 A, Merrillville 46110
Lawrence	3	Steve M. Barlow, Bedford	Mark A. Ballard, 1300 State St., LaPorte 46350
Madison	8	Gerald P. Irwin, Alexandria	Wade Kanney, Exec. Sec. P.O. Box 574, LaPorte 46350
Marion	7	Richard B. Schnute, Indianapolis	James M. Jacobi, 2900 W. 16th St., Bedford 46421
Marshall	13		Phillip E. Goshert, c/o R.R. 4, Box 352 A, Alexandria 46001
Miami	11	Christos D. Gatzimos, Peru	Donald L. Rogers, 25 N. Green St., Brownsburg 46112
Montgomery	9	Malcolm K. Baird, Crawfordsville	Mr. Harold W. Hefner, Exec. Dir., 211 N. Delaware St., Indianapolis 46204
Morgan	7		Byron Holm, 1305 N. Center, Plymouth 46563
Newton	9	Marcelino F. Guzman, Morocco	Maurice D. Sixbey, Denver Medical Clinic, Denver 46926
Noble	12	James D. Chandler, Avilla	Tony L. Yeiter, Culver Union Hospital, Crawfordsville 47933
Orange	3	Charles X. McCalla, Paoli	Joyce Branham, 2209 John R. Wooden Dr., Martinsville 46151
Owen-Monroe	2	Brandt L. Ludlow, Bloomington	Arthur Schoonveld, 420 E. Main St., Brook 47922
Parke-Vermillion	5		Carl F. Stallman, 409 E. Wayne, Kendallville 46755
Perry	1	Robert Gilbert, Cannelton	Philip T. Hodgins, 420 N. Maple, Orleans 47432
Pike	1	Donald L. Hall, Petersburg	Dwight L. Stauffer, 711 W. Second St., Bloomington 47401
Porter	10	Alfred J. Kobak, Valparaiso	Arlene Rhea, Exec. Dir., P.O. Box 5092, Bloomington 47420
Posey	1		J. Franklin Swaim, P.O. Box 185, Rochville 47872
Pulaski	13	William R. Thompson, Winamac	Robert A. Ward, Professional Bldg., Tell City 47856
Putnam	5	Hugh E. Glock, Greencastle	Kenneth A. Black, 6040 Lute Road, Portage 46368
Randolph	8	Susan K. Pyle, Union City	Herman Hirsch, 130 W. 5th St., Mt. Vernon 47620
Ripley	4	Manuel G. Garcia, Batesville	Che-Lu Tseng, 521 E. 13th St., Winamac 46996
Rush	6	Terry J. Kyle, Rushville	Robert A. Heavin, P.O. Box 133, Coatesville 46121
St. Joseph	13	James L. Grainger, South Bend	C. R. Miranda, 702 Browne St., Winchester 47394
Scott	3	Marvin L. McClain, Scottsburg	A. E. Jaojoco, Margaret Mary Hospital, Batesville 47006
Shelby	6	Joseph Moheban, Shelbyville	Douglas Morrell, 606 E. 11th St., Rushville 46173
Spencer	1	John C. Glackman Jr., Rockport	Alfred C. Cox, 51916 U.S. 31 No., South Bend 46637
Starke	13	Dennid Dalphond, N. Judson	Mrs. Rose Vance, Exec. Dir., 2015 Western Ave., Ste. 333, South Bend 46629
Steuben	12	Larry E. Watkins, Angola	Wm. W. Scott, Medical Arts Bldg., Highway 31 North, Scottsburg 47170
Sullivan	2	Irvin H. Scott, Sullivan	David E. Esarey, P.O. Box 370, Shelbyville 46176
Tippecanoe	9	Thomas A. Bridge, Lafayette	Michael O. Monar, 6th & Main, Rockport 47635
Tipton	9	Albert E. Stouder, Jr., Tipton	Walter Fritz, 1520 S. Heaton St., Knox 46534
Vanderburgh	1	Robert R. Penkava, Evansville	Terry L. Shipe, 310 N. Wayne, Angola 46703
Vigo	5	James T. Deppe, Terre Haute	Joseph E. Dukes, P.O. Box 278, Dugger, 47848
Wabash	11	L. Michael Silvers, N. Manchester	Paula Meluch, c/o 2110 Underwood St., Lafayette 47904
Warrick	1	Syed A. Ali, Boonville	Richard G. Bilodeau, R.R. 6, Box 400, Noblesville 46060
Washington	3	Mark E. Manship, Salem	Mrs. Debbie Stroessner, Exec. Dir., 421 N. Main St., Evansville 47711
Wayne-Union	6	John C. Spellmeyer, Richmond	Michael J. Besozzi, 210 Deming Lane, Terre Haute 47803
Wells	12	Wallace R. Van Den Bosch, Bluffton	William L. Purcell, Exec. Dir., P.O. Box 986, Terre Haute 47801
White	9	James Balvich, Monticello	James P. McCann, 1025 Manchester Ave., Wabash 46992
Whitley	12	John L. Vogel, Columbia City	Kishor R. Bhatt, 1116 Millis Ave., Bonnaville 47601
Resident Med. Society		John Terry, Indianapolis	Ann L. Anderson, 1000 N. Shelby St., Salem 47176
			Robert J. Warren, c/o 1401 Chester Blvd., Richmond 47374
			James E. Umphrey, 303 S. Main St., Bluffton 46714
			David A. Shapiro, 1017 O'Connor Blvd., #D, Monticello 47960
			Claude J. Heritier, 700 Hill Dr., Columbia 46725
			Lana Patch, 1500 N. Albany St., Suite 807, Beech Grove 46107

# OBITUARIES

## **Margaret Ann Bassett, M.D.**

Dr. Bassett, 67, a retired Thorntown (Boone County) physician, died Jan. 27 in a Lebanon nursing home.

She was a 1942 graduate of Indiana University School of Medicine. She had practiced in Thorntown 32 years.

Dr. Bassett, formerly a staff member of Witham Memorial Hospital, Lebanon, was certified by the American Board of Family Practice and was a fellow of the American Academy of Family Physicians.

## **Thomas A. Jean, M.D.**

Dr. Jean, 68, a Morristown general practitioner, died Jan. 13 at Methodist Hospital, Indianapolis.

He was a 1951 graduate of Indiana University School of Medicine and was an Army Air Corps veteran of World War II.

Dr. Jean was named "Morristown Citizen of the Year" three years ago. He was a member of the Shelby County Board of Health and was on the staff of W. S. Major Hospital. He had practiced in Morristown 33 years.

## **Leroy B. Chambers, M.D.**

Dr. Chambers, 82, a retired Union City physician, died Dec. 12 at Randolph Nursing Home in Winchester.

He was a 1929 graduate of Indiana University School of Medicine.

Dr. Chambers was the Randolph County coroner from 1968 to 1976. He was a former president of the Randolph County Medical Society and was a member of the International College of Surgeons. He became a member of the ISMA Fifty Year Club in 1979.

## **Henry G. Backer, M.D.**

Dr. Backer, 87, a retired Ferdinand general practitioner, died Jan. 1.

He was a 1924 graduate of Indiana University School of Medicine.

Dr. Backer was a former president of the Dubois County Medical Society and was a member of the ISMA Fifty Year Club.

## **Robert B. Sanderson, M.D.**

Dr. Sanderson, 85, a retired South Bend physician, died Jan. 25 at St. Joseph's Medical Center, South Bend.

He received the M.D. degree in 1928 from Northwestern University. He retired in 1973.

Dr. Sanderson, a specialist in cardiology and pulmonary diseases, was superintendent of Healthwin Hospital, South Bend, from 1933 to 1941, at which time he entered private practice. He was a fellow of the American College of Physicians, a fellow of the American College of Chest Physicians, and a former president of the Indiana Chapter, American Society of Internal Medicine. He became a member of the ISMA Fifty Year Club in 1978.

## **Howard H. Marks, M.D.**

Dr. Marks, 73, a retired Huntington general practitioner, died Jan. 24 at Miller's Merry Manor, Huntington.

He was a 1937 graduate of Indiana University School of Medicine and was an Army-Air Corps veteran of World War II. He retired from practice in 1977.

Dr. Marks was a former Huntington County health officer. He was a former vice-president of the Huntington County Medical Society and he was a member of the American Academy of Family Physicians.

## **Anton P. Hattendorf, M.D.**

Dr. Hattendorf, 82, a retired Fort Wayne colon-rectal surgeon, died Feb. 10 at Lutheran Hospital.

He was a 1931 graduate of Indiana University School of Medicine and was an Army veteran of World War II.

Dr. Hattendorf was a former Allen County coroner. He was city health commissioner in 1966 and county health commissioner in 1974. He also was a former president of the Lutheran Hospital medical staff. His memberships included the American Society of Colon and Rectal Surgeons, American Academy of Family Physicians, and the ISMA Fifty Year Club.

## **Edward E. Clark, M.D.**

Dr. Clark, 49, an Indianapolis general practitioner, died Feb. 15 at Methodist Hospital.

He was a 1967 graduate of Indiana University School of Medicine.

Dr. Clark's memberships included the Aesculapian Medical Society, the National Medical Association, and the American Academy of Family Physicians.

## **John M. Masters, M.D.**

Dr. Masters, 86, a retired Indianapolis ophthalmologist, died Feb. 10 at Winona Hospital.

He was a 1926 graduate of Indiana University School of Medicine and was an Army veteran of World War II. He retired in 1966.

Dr. Masters was a professor of ophthalmology and otolaryngology at the I.U. School of Medicine for many years. His memberships included the American Academy of Ophthalmology and the ISMA Fifty Year Club.

## **Paul R. Boren, M.D.**

Dr. Boren, 82, a retired Poseyville physician, died Feb. 9 at the Holiday Care Center in Evansville.

He was a 1929 graduate of Washington University Medical School, St. Louis, and was an Army veteran of World War II. He retired in 1975.

Dr. Boren served as president of the Posey County Medical Society for several years. The Poseyville Chamber of Commerce named him Man of the Year in the 1960s. He was a member of the ISMA Fifty Year Club.

## **James R. Roth, M.D.**

Dr. Roth, 69, a retired Columbia City physician, died Feb. 10 at his home.

He was a 1942 graduate of Indiana University School of Medicine.

Dr. Roth was a member of the Whitley County Medical Society and the American Academy of Family Physicians.



# COMMERCIAL ANNOUNCEMENTS

**DIAGNOSTIC RADIOLOGIST**, also Board-certified in Nuclear Medicine, seeks position in central Indiana. 8 years experience as director of nuclear medicine, major university hospital. Competent in CT Scanning, ultrasound and special procedures. Phone Dr. H. Kidman, (317) 787-3296.

**CONDOMINIUM FOR SALE**—Pointe, Lake Monroe. 2 bedrooms, with 3rd in loft. 1 bath. All G.E. appliances and window treatments included. Never a rental. Immaculate. \$49,500. (317) 253-7280 (home).

**EMERGENCY MEDICINE** Position Available: Opportunity for experienced Emergency Physician to work weeknights 6 p.m. to 8 a.m., Kendallville, Ind. Contact Mr. John F. Ling Jr., Administrator—(219) 347-1100, ext. 120.

**OFFICE SPACE AVAILABLE:** Greenwood Professional Park. Excellent accommodations in an established medical complex. Attractive. Well landscaped setting. Plenty of convenient parking. Complete laboratory and radiological services on premises. Centrally located in the fastest growing area of Indiana. Two miles from new University Heights Hospital. Ideal location for the individual practitioner or as an additional location for group practices. Ready for occupancy. No leasehold expenses required. For additional information, please call (317) 881-3565.

**FAMILY PRACTICE**—in southeastern Indiana near Cincinnati. Excellent location in beautiful old family home. Fully equipped office, off-street parking, modern hospital 10 minutes from office. Established practice over past 22 years. Will consider partnership, sale, and all other practice options. Intend to be retired within the next 5 years. Call 812) 537-3504.

**MEDICAL PRACTICE SALES AND APPRAISALS:** We specialize in the valuation and selling of medical practices. If interested in buying or selling a medical practice, contact our Brokerage Division at: The Health Care Group, 400 GSB Building, Bala Cynwyd, Pa. 19004—(215) 667-8630.

**OFFICE SPACE AVAILABLE:** Franklin, Indiana. Lease or sell. 1500 sq. ft. new medical office ready for occupancy. Waiting room, business office, consultation room, nurses station, four exam rooms. Cathedral ceilings. Skylights. One minute drive west of Johnson County Memorial Hospital in rural setting. Beautiful view. For additional information, please call (317) 736-7310.

**HOME NEAT HOME**—Complete cleaning by Kim, a lady who knows how to wipe that dirty look off your space. Experienced, satisfaction guaranteed. Free estimates. References on request. Indianapolis area only. Please call Kim Hancock, (317) 844-8473.

**AMBITIOUS G.P. NEEDED** to take over an active, busy and interesting General Practice, north central Indiana. Retiring. Phone 219-772-4534.

**EMERGENCY MEDICINE POSITION AVAILABLE:** Excellent opportunity for experienced emergency physician to join career emergency group practicing in northwestern Indiana, near Chicago. If you have over 4,000 hours experience, please contact Laurie Perkins at (312) 327-0777.

**PEDIATRIC PRACTICE for sale.** Immediately available, northside Indianapolis. Well established. Completely equipped office. Write P.O. Box 40401, Indianapolis, Ind. 46240, or call (317) 251-4819 (after 6 p.m.).

**FOR SALE:** Two complete exam room tables and accessories, in excellent condition. 1 lt. orange w/cream, 1 olive w/cream. Asking \$500 each room. Can be seen at Huntingburg Clinic, Huntingburg, Ind. 47542. Telephone 812-683-4129.

**ASSOCIATE MEDICAL DIRECTOR**—Indiana Masonic Home/Hospital. Responsible, with Medical Director, for medical care of 550 residents in an institution including 268 hospital beds. Board Certified, or eligibility, in Internal Medicine required, some experience in Geriatric Medicine very desirable. Facility located 30 minutes from Indiana University School of Medicine campus. Faculty appointment and participation in Internal Medicine and Geriatric Staff activities expected. Heavy service responsibility, but ample opportunity for teaching and research. Salary and fringe benefits negotiable—starting date by July 1, 1986. Excellent opportunity for physician interested in career of geriatric services, teaching, and research in an early phase program in this rapidly expanding area of medicine. Reply and CV to Marvin Isley, c/o Indiana Masonic Home, 690 State Street, Franklin, Indiana 46131.

**INDIANA**—Position immediately available. New walk-in medical facility. Guaranteed salary. Fee for service incentives. Regular hours. Please reply to P.O. Box 461, Terre Haute, Indiana 47807.

**INDIANA, North of Indianapolis:** Immediate full time position and directorship in newly renovated emergency department at 135 bed facility. Hourly salary, flexible scheduling, malpractice insurance provided. For more information, call 800-253-1795 or in Michigan 800-632-3496; or send CV to Emergency Consultants, Inc., 2240 South Airport Road, Room 20, Traverse City, MI 49684.

**POSITION AVAILABLE**—Director of Undergraduate Family Practice Education, Department of Family Medicine, Indiana University School of Medicine. Must be ABFP Certified with significant family practice and teaching experience. Faculty rank and salary negotiable. Indiana University School of Medicine is an Equal Opportunity Employer. If interested, submit resume to A. Alan Fischer, M.D., Chairman, Department of Family Medicine, 1100 West Michigan Street, Indianapolis, IN 46223.

**FAMILY PRACTICE OFFICE** complete and very nice, plus x-ray. Very reputable practice 2 miles north of South Bend and 10-15 minutes from 2 major hospitals. 5 minutes from Notre Dame. Solo; could be a partnership set-up. Gross 6 figures. For information, call (219) 272-6300 or 272-3646.

Commercial announcements are published as a service to members of the Indiana State Medical Association. Only ads considered to be of advantage to members will be accepted. Advertisements of a truly commercial nature (e.g., firms selling brand products, services, etc.) will be considered for display advertising.

All orders must be in writing and will automatically be set in regular classified type. Box numbers are not available.

## Charges:

Indiana physicians .....	25¢/word (\$5 min)
Out-of-state physicians .....	35¢/word (\$7 min)
Hospitals/health care facilities .....	50¢/word (\$10 min)
Realtors/commercial recruitment and all others .....	75¢/word (\$15 min)

**Deadline:** First working day of month preceding month of publication.

**Payment Procedure:** Payment in advance is not required. Invoices and tearsheets are mailed to advertisers upon publication. INDIANA MEDICINE is issued on the 10th of each month.

**Address:** INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis, Ind. 46208.



## PRACTICES AVAILABLE

ALLERGY—Suburban Philadelphia—Excellent opportunity—Very low price.

ALLERGY—Philadelphia area—Very large practice

DERMATOLOGY—Connecticut—Strong Finances.

FAMILY PRACTICE—Philadelphia and suburbs—several practices.

INTERNAL MEDICINE—Arizona—Well equipped.

INTERNAL MEDICINE—D.C. suburb—desirable community.

PEDIATRICS—Northeastern Pa.—Young growing practice.

PEDIATRICS—Colorado—Convenience of a group—Strong finances.

PEDIATRICS—Central New York—Very large practice.

RADIOLOGY—Philadelphia—Large, well established.

SURGERY GENERAL—New Jersey—Attractive practice near New York City.

We specialize in the valuation and selling of medical practices. If interested in buying or selling a medical practice, contact our Brokerage Division at: Health Care Personnel Consulting, 403 GSB Building, Bala Cynwyd, Pa. 19004

## Are You Moving?

If so please send change of address to Membership Dept., ISMA, 3935 N. Meridian St., Indianapolis Ind. 46208, at least six weeks before you move.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

County \_\_\_\_\_

Tel: Office \_\_\_\_\_ Tel: Home \_\_\_\_\_

IMPORTANT—Attach mailing label from your last copy of INDIANA MEDICINE here.

## ADVERTISERS INDEX

April 1986

Vol. 79

No. 4

American Medical International .....	361
American Physicians Life .....	Cover
Brown Pharmaceutical Co., Inc. ....	371
Campbell Laboratories .....	375
Central Pharmaceuticals, Inc. ....	375
Commercial Announcements .....	395
Eli Lilly & Company .....	341
Firstmark Professional Services .....	370
Forest View Psychiatric Hospital .....	349
Halderman Farm Management .....	347
Health Care Personnel Consulting, Inc. ....	396
Indiana Medical Bureau .....	335
Knoll Pharmaceutical .....	326-328
Lincoln National Life .....	323
Marion Laboratories .....	363-364
McGraw-Hill .....	357
Medical Accounts Group, Inc. ....	319
Peoples Drug .....	321
Physicians' Directory .....	376-384
Physicians Insurance Co. of Indiana .....	372
Roche Laboratories .....	Covers
Smith Kline & French .....	325, 346
Tipton Cohen & Koch .....	389
Upjohn Company .....	345
U.S. Air Force .....	344, 389

In accepting advertising for publication, INDIANA MEDICINE has exercised reasonable precaution to insure that only reputable, factual advertisements are included. However, we do not have facilities to make comprehensive or complete investigation, and the claims made by advertisers in behalf of goods, services and medicinal preparations, apparatus or physical appliances are to be regarded as those of the advertisers only. Neither sanction nor endorsement of such is warranted, stated or implied by the association.

EXCERPTS FROM A SYMPOSIUM  
"THE TREATMENT OF SLEEP DISORDERS"<sup>8</sup>

... highly effective  
for both sleep induction and  
sleep maintenance

Sleep Laboratory Investigator  
Pennsylvania

... onset of action is  
rapid... provides sleep with  
no rebound effect to agitate the  
patient the following day

Psychiatrist  
California

... appears to have  
the best safety record of any  
of the benzodiazepines

Psychiatrist  
California

After 15 years, the experts still concur about the  
continuing value of Dalmane (flurazepam HCl/  
Roche). It provides sleep that satisfies patients...  
and the wide margin of safety that satisfies you.

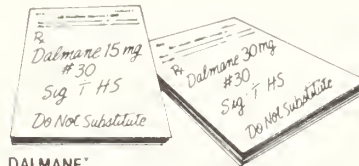
The recommended dose in elderly or debilitated  
patients is 15 mg. Contraindicated in pregnancy.

**DALMANE**<sup>®</sup>  
brand of  
flurazepam HCl/Roche <sup>®</sup>  
**sleep that satisfies**

15-mg/30-mg  
capsules



**References:** 1. Kales J, et al. *Clin Pharmacol Ther* 12:691-697, Jul-Aug 1971. 2. Kales A, et al. *Clin Pharmacol Ther* 18:356-363, Sep 1975. 3. Kales A, et al. *Clin Pharmacol Ther* 19:576-583, May 1976. 4. Kales A, et al. *Clin Pharmacol Ther* 32:781-788, Dec 1982. 5. Frost JD Jr, DeLucchi MR. *J Am Geriatr Soc* 27:541-546, Dec 1979. 6. Dement WC, et al. *Behav Med*, pp 25-31, Oct 1978. 7. Kales A, Kales JD. *J Clin Psychopharmacol* 3:140-150, Apr 1983. 8. Tennant FS, et al. Symposium on the Treatment of Sleep Disorders, Teleconference, Oct 16, 1984. 9. Greenblatt DJ, Allen MD, Shader RI. *Clin Pharmacol Ther* 21:355-361, Mar 1977.



**DALMANE**<sup>®</sup>  
brand of  
flurazepam HCl/Roche <sup>®</sup>

Before prescribing, please consult complete product  
information, a summary of which follows:

**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening in patients with recurring insomnia or poor sleeping habits in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

**Contraindications:** Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patients to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Withdrawal symptoms rarely reported; abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase, and paradoxical reactions, e.g. excitement, stimulation and hyperactivity.

**Dosage:** Individualize for maximum beneficial effect. **Adults:** 30 mg usual dosage, 15 mg may suffice in some patients. **Elderly or debilitated patients:** 15 mg recommended initially until response is determined.

**Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl.



Roche Products Inc.  
Monro, Puerto Rico 00701



# #1 FOR SLEEP

After more than 15 years of use, it's #1 for sleep that satisfies. Patients are satisfied because they fall asleep fast and stay asleep till morning.<sup>1-8</sup> And *you're* satisfied by the exceptionally wide margin of safety.<sup>7-9</sup> As always, caution patients about driving or drinking alcohol.

Please see preceding page for summary of product information.

**DALMANE<sup>®</sup>**  
brand of  
flurazepam HCl/Roche<sup>®</sup>  
**sleep that satisfies**





MAY 1986

VOL. 79

NO. 5

# INDIANA MEDICINE

The Journal of the Indiana State Medical Association

DISPLAY  
SHELVES



*An Exemplary Teacher*

MA 02115

BOSTON

# **FOR MEDICAL PROFESSIONAL LIABILITY COVERAGE, THE ISMA STRONGLY RECOMMENDS PHYSICIANS INSURANCE COMPANY OF INDIANA.**

Several companies are anxious to provide most Indiana physicians with medical professional liability insurance coverage. *Only one* has received the formal endorsement, support, and sponsorship of the Indiana State Medical Association. That company is PICI, Physicians Insurance Company of Indiana.

Why PICI?

Because PICI is committed to providing Indiana physicians with the best possible coverage at the lowest possible rates throughout their medical careers. Indiana physicians dominate the company's board of directors and serve on budget, claims and underwriting committees. PICI is a publicly held stock company, and provides annual as well as periodic interim financial reports.

With PICI, you know what's happening to your premium dollars. You will receive information about claims experience and trends. You are guaranteed input on company activities, through your physician members of the company's board and its committees. You are part of the company.

Through PICI, you also receive competitively priced auto, homeowners, office protection and personal umbrella coverages, designed and offered with the same long term commitment.

Compare all that PICI offers with what you will obtain from other sources of medical professional liability and other essential insurance coverages. We think you'll agree that the ISMA has endorsed the best.

**The Accountable Company . . .**



**PHYSICIANS INSURANCE  
COMPANY OF INDIANA**

3901 West 86th Street  
Suite 350  
P.O. Box 689059  
Indianapolis, Indiana 46268  
(317) 872-3016 or toll free  
in Indiana (800) 732-1313

THE FRANCIS A. COUNTWAY  
LIBRARY OF MEDICINE  
BOSTON, MA

MAY 2 1988

# INDIANA MEDICINE

BOSTON, MA

MAY 2 1988

Vol. 79, No. 5  
MAY 1986

Devoted to the interests of the medical profession and public health in Indiana since 1908.

## SCIENTIFIC ARTICLES

CME	
Dissociative Disorders: Diagnosis and Treatment	410
PD CRITICAL CARE	
Ketoacidosis in the Diabetic Child: A Metabolic Emergency	416
Evaluation of Patients with Intractable Seizures for Epilepsy Surgery at I.U. Medical Center	420
Sudden Death in Single Coronary Artery Occurring During Coronary Angiography	429
Wolff-Parkinson-White Syndrome: Cryosurgical Treatment	432
Malignant Obstructive Jaundice: Causes and Management Alternatives	438
FEATURES	
COVER FEATURE	
Medical Museum Notes	398
Notes from the Annals of the Royal College of Surgeons of England	141
Are D.O.s Real Doctors?	450
Big Mouths Cause Malpractice Suits	152
1986 Legislative Digest	156
Is Medicare Bankrupt?	168
Newsletter of the Indiana Historical Society	475

## DEPARTMENTS, MISCELLANEOUS

What's New?	400
Future File	402
Public Health Notes	404
Cancer Corner	409
Auxiliary Report	470
Book Reviews	472
CME Quiz	489
News Notes	492
CME Awards	493
New ISMA Members	495
Obituaries	496

USPS 284-440  
ISSN 0746-8288

### OFFICE OF PUBLICATION:

3935 N. Meridian St.,  
Indianapolis, Ind. 46208  
Tel: (317) 925-7545

INDIANA MEDICINE (ISSN 0746-8288) is published monthly by the Indiana State Medical Association. Second-class postage paid at Indianapolis, Ind.

POSTMASTER: Send address changes to INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis, Ind. 46208.

Yearly subscription rates: \$20 domestic, \$22 Canada, \$23 foreign. Library rates: \$18 domestic, \$20 Canada, \$21 foreign. Senior ISMA members and full-time

medical students—\$10. Single copies not available. Subscriptions are renewable annually.

Views expressed do not necessarily reflect the opinions of the editors. No copyright is claimed, unless specifically indicated. Copyright rests solely with authors, who are responsible for statements made in their articles. Scientific and editorial contributions are accepted for exclusive publication, subject to editorial requirements. Publication deadline: 1st day of month preceding month of issue. Instructions for authors available upon request.

All issues since 1967 are available on microfilm from University Microfilms International, 300 N. Zeeb Rd., Ann Arbor, Mich. 48106. Indexed in Index Medicus and Hospital Literature Index.

Advertising rates and data available upon request.

### EDITOR

Frank B. Ramsey, M.D.

### MANAGING EDITOR

Martin T. Badger

### CIRCULATION MANAGER

Sheryl A. Mahoney

### BUSINESS MANAGER

Richard R. King

### EDITORIAL BOARD

Alvin J. Haley, M.D.

Alan T. Marty, M.D.

(Terms expire Dec. 31, 1986)

Thomas J. Conway, M.D.

I.E. Michael, M.D.

(Terms expire Dec. 31, 1987)

Elton Heaton, M.D.

Vacant

(Terms expire Dec. 31, 1988)

Kevin A. Ault

Richard E. Blackburn

Robert S. Flint II

(Terms expire Dec. 31, 1986)

### CONSULTING EDITORS

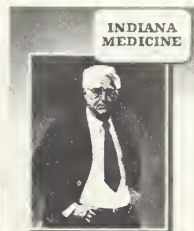
Steven C. Beering, M.D., Charles A.

Bonsett, M.D., Rodney A. Mannion, M.D.,

Lall G. Montgomery, M.D., Paul S.

Rhoads, M.D., W.D. Snively, M.D., I.W.

Wilkins, M.D.



### ABOUT THE COVER

Dr. Alexander T. Ross—"An Exemplary Teacher"—is the subject of this month's Medical Museum Notes column. A copy of the original painting by William G. Ashby (who later added the eyeglasses) was used by our cover designer, Fred Kinghorn, to produce this keepsake cover, copies of which are available on request.



# MEDICAL MUSEUM NOTES

CHARLES A. BONSETT, M.D., Indianapolis



**T**HE FRONT COVER of this issue of INDIANA MEDICINE is a reproduction of a photographic copy of the portrait of Dr. Alexander T. Ross by William G. Ashby. This painting was commissioned by the residents and former residents of this superb teacher on the occasion of his retirement in 1971. Dr. Ross, as Professor and Chairman of the Department of Neurology, developed Indiana University's resident training program in neurology following World War II. Since retirement, he has been living in Arkansas.

Dr. Joe R. Brown, in describing the early years of the American Academy of Neurology, emphasized the importance of the teacher-student relationship in neurology, and he quoted the words of A. E. Severinghaus: "Neurologists are born when students of somewhat special temperament and quality of mind come in contact with dedicated scientists and teachers who are themselves inspired by the challenge. . . . *The most important factor is the influence of a particular person.* The intellectual challenge of neurology is the second most influential factor."

These words describe perfectly the relationship and influence of Dr. Ross to his residents. He was the *sine qua non* of their professional education. Those of us who had the distinct honor of receiving our neurological training from this inspiring and exemplary man were impressed not only with his diagnostic acumen and teaching skill, but also by the warmth of the personal relationship and by his disarming demonstrations of gentlemanly conduct, which we all tried to emulate but which none of us could ever quite achieve.

It is of interest that Dr. Ross held his own teacher of neurology, Dr. Hans Reese, with the same high esteem. Dr. Reese, who was Professor and Chairman of the Department of Neurology at the University of Wisconsin, was born and educated in Germany. During World War I, prior to his years in

medical school, Dr. Reese served in the German navy and, among others, participated in the Battle of Jutland. He earned the Iron and Hanseatic Crosses. Later, in 1963, the German government

---

**Excellent Teachers  
Are Themselves  
Inspired by the  
Challenge—Most  
Importantly, They  
Often Are  
Influenced by a  
Particular Person.  
Dr. Alexander Ross,  
Now Retired,  
Is Such a Person . . .**

---

awarded him the Cross of Merit for his activities in promoting German-American relations.

Dr. Reese had only words of praise for *his* teacher of neurology, Dr. Max Nonne, which were summarized with "... He was an unusual man." Dr. Nonne's teaching career came to an abrupt although voluntary end at the beginning of the Third Reich. "This is going too far," he said. "I cannot, I will not, greet my friends with 'Heil Hitler.'" Dr. Nonne was a world authority on neurosyphilis. He performed the post-mortem study on the brain of Lenin (which revealed no syphilis) and he wrote a textbook en-

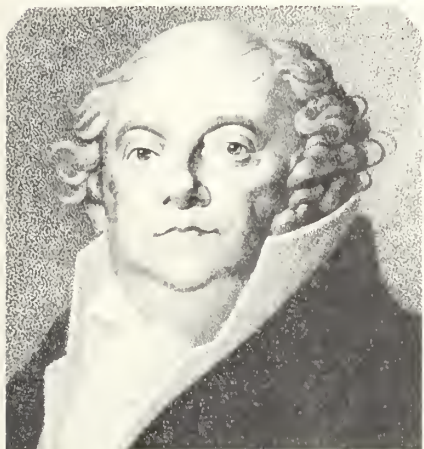
titled *Syphilis of the Nervous System*.

Dr. Nonne was taught by Dr. Wilhelm Erb and on the occasion of the latter's 80th birthday made the following remarks: "You taught us not so much with your words as with your example. You did not have an unapproachable mantle of dignity and stand aloof from us, but rather you let us get a glimpse of your mental processes and your warm heart. . . . You made us understand Nothnagel's words that only a good person can become a truly great physician."

This teacher-student nexus can be traced on for over two centuries, with each generation leaving a published note of gratitude and affection for his mentor. Dr. Erb, who first systematized the neurological examination and who discovered the clinical significance of the knee and pupillary reflexes, had warm praise for his teacher, Nikolaus Friedreich. Friedreich, an internist who distinguished himself for his clinical correlation with neuropathological demonstration, was a student of Rudolph von Kölliker, and von Kölliker was a student of Jacob Henle who in turn was a student of Johannes Müller, who wrote of his teacher, Karl Rudolphi: "He instilled enthusiasm in his students. . . . He would impart knowledge where others were secretive. He made his library available. . . . He gave help and advice. . . . He was fatherly. His unselfish character attracted everyone. I shall never forget the impression Rudolphi made on me."

And those who had Alex Ross as their teacher will never forget the impression that he made on them.

(The painting of Dr. Ross on the cover is not quite an exact reproduction of the original at I.U.S.M. The original shows Dr. Ross without his glasses. I returned my own photographic copy to the artist and requested that the glasses be worn. Mr. Ashby was very obliging. Reprints of this cover are available on request.)



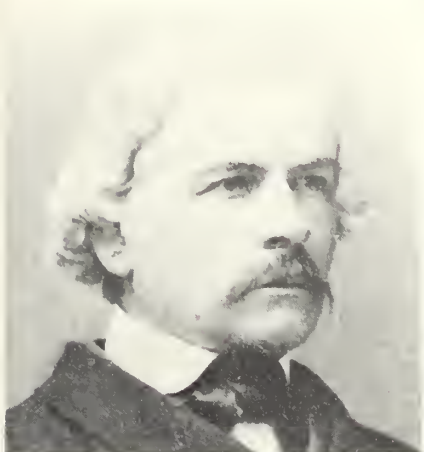
Karl Rudolphi  
1771-1832



Johannes Müller  
1801-1858



Jacob Henle  
1809-1865



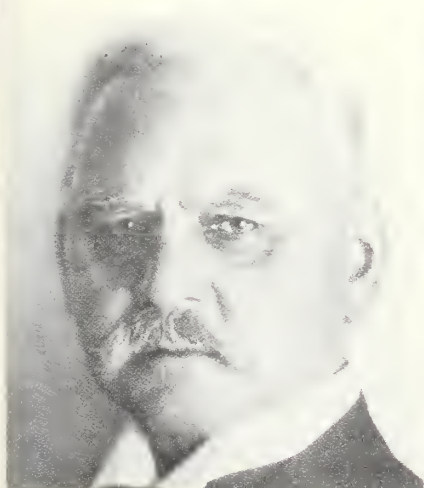
Rudolph von Kölliker  
1817-1905



Nikolaus Friedreich  
1825-1882



Wilhelm Erb  
1840-1921



Max Nonne  
1861-1959



Hans Reese  
1891-1973



Alexander Ross  
1908-

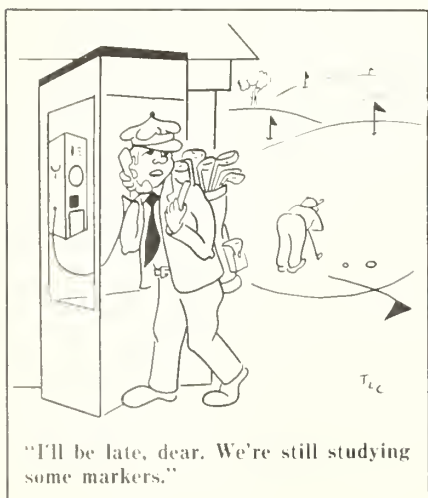


# WHAT'S NEW?

Searle announces that Nitrodisce® transeutaneous nitroglycerin patch is now available in a new 7.5 mg/24 hrs dosage size. The product may now be prescribed in 5 mg, 7.5 mg, and 10 mg/24 hrs sizes, adding more precision and flexibility to dosage titration.

Beecham Laboratories reports that the use of Augmentin® (amoxicillin/clavulanate potassium) combines the world's first beta-lactamase inhibitor — clavulanate potassium — with amoxicillin. One virtue claimed for the new antibiotic is the inhibition of beta-lactamase, the substance that tends to prevent full control of the organisms that usually produce chronic otitis media in children. Tube tympanostomy has been frequently done in children because antibiotics previously used to control the chronic infection and formation of fluid in the middle ear, were at least partially ineffective. The new antibiotic with its clavulanate potassium inhibitor is expected to reduce the need for tympanostomy tubes and to hasten the healing of the chronic infection if tubes are necessary.

Roche has changed the name Clonopin® CIV to Klonopin™ (clonazepam/Roche) CIV. The change was made to avoid possible confusion with the generic name clonidine, which is an antihypertensive product pharmacologically not related to Klonopin, an anticonvulsant.



News of what is new in the medical supply industry is composed of abstracts from news releases by book publishers and manufacturers of pharmaceuticals, clinical laboratory supplies, instruments and surgical appliances. Each item is published as news and does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

Abbott Laboratories has introduced the first portable cyler device for patients on continuous cycling peritoneal dialyses (CCPD). Called the Inpersol Cyler 1000, the new device is compact and lightweight, enabling patients to move it easily around the house. A traveling case is available for outside the home. The cyler is compatible exclusively with Abbott dialysis solutions and administration sets.

Hewlett-Packard has added new Blood-Gas measurements to their neonatal monitors. They have introduced tep02 as an integral feature of the new HP 78833B and HP 78834A neonatal monitors. These new features make it possible for one compact monitor to provide fast, push-button access to virtually all data needed for medium- to high-level neonatal care.

Boehringer Ingelheim announces availability of MEXITIL® (mexiletine HCl), a new orally effective lidocaine congener, for the treatment of symptomatic ventricular arrhythmias, including frequent premature ventricular complexes, couplets, and ventricular tachycardia. Clinical trials show that MEXITIL has efficacy comparable to other Class I antiarrhythmic agents — quinidine, procainamide, disopyramide — for control of ventricular arrhythmia. Although, like other antiarrhythmics, MEXITIL has the potential for serious adverse effects, including worsening of arrhythmia, the most common MEXITIL side effects are reversible GI and CNS reactions. These can often be managed by taking the drug with food or antacids and by careful dose titration.

The National Patent Analytical System announces the marketing at an early date of VERITAS™ 100 ANALYZER. It resembles a portable computer complete with built-in monitor, disc drives and foldaway keyboard. It constitutes a noninvasive method of determining whether an individual is under the influence of alcohol, marijuana and cocaine. With the aid of a disposable headband, the brain waves of the subject may be recorded and analyzed for drugs. Later it is expected that the device may be expanded to detect amphetamines, barbiturates, hallucinogens, opiates and tranquilizers. A complete test takes five minutes. It may be operated by one person.

Eastman Kodak has expanded the capabilities of its Ektachem DT60 analyzer to include testing for high-density lipoproteins (HDL). The Ektachem DT60 analyzer is currently the only automated analyzer designed for the physician's office that offers the complete lipid profile: serum cholesterol, triglycerides, and high density lipoprotein cholesterol.

Hewlett-Packard's Medical Products Group, a pioneer in cardiograph technology since the early 1960s, has announced a trade-in program in recognition of the silver anniversary of the company's participation in the cardiology market. Cardiograph owners, regardless of the manufacturer and age of their product, are eligible for a trade-in allowance of up to \$1,000 on the purchase of the top-of-the-line HP 4760A. This cardiograph can be configured for interpretation using both adult criteria, and the industry's only recognized pediatric criteria, for analysis of ECGs.

Airco Medical Gases has established a 24-hour, seven-day-a-week emergency telephone system for its magnetic resonance imaging (MRI) cryogen customers. The hotline service will enable customers to place emergency orders for cryogens or to receive technical assistance at any and all times.



# ISMA-Gram

## Re: Group Term Life



AMERICAN PHYSICIANS LIFE

**ISMA-Gram**

Dear Indiana physician,

The new ISMA endorsed Group Term Life plan is better than ever  
STOP

Coverage maximums have been increased up to \$500,000 for  
ISMA members and employees of corporate plans. Members'  
spouses are now eligible for up to \$200,000 and dependent  
children, \$5,000 STOP

Costs have been dramatically cut as much as 38% at some age  
brackets STOP

Plus, an additional 10% premium experience credit is applied,  
guaranteed until November 1, 1986 STOP

It's easy to apply and underwriting is simplified (physicals are  
seldom required) STOP

Existing participants automatically enjoy the greatly reduced  
premiums and may apply for higher amounts of protection STOP

Take advantage of this opportunity to secure maximum protection  
at a minimum cost GO

**Call Today**  
1-800-742-1275



Underwritten By:

**AMERICAN PHYSICIANS LIFE**

Bates Drive  
P.O. Box 281  
Pickerington, Ohio 43147

# FUTURE FILE

## Pediatrics Symposium

The 14th Annual Fall Pediatric Surgery/Pediatrics Symposium on "Care of the Seriously Ill Child," sponsored by the I.U. School of Medicine, will be held Oct. 9 and 10 at Union Station, Indianapolis.

Guest speakers include W. Hardy Hendren, M.D., Children's Hospital Medical Center, Boston; Dale G. Johnson, M.D., University of Utah Medical Center; and Kathryn D. Anderson, M.D., Children's National Medical Center, Washington, D.C.

The correspondent is Jay L. Grosfeld, M.D., 702 Barnhill Drive, Indianapolis 46223—(317) 264-8353.

## Methodist Hospital CME

May 22: Special Internal Medicine Grand Rounds, "Sleep Disorders."

May 31: 6th Annual Methodist Hospital House Staff Alumni Meeting, "Strategies for Smoking Cessation: How to Help Your Patients," Indianapolis.

June 4: "Silent Ischemia: Approaches to Diagnosis and Treatment," Indianapolis.

July 7-11: "Emergency Medicine Update," Indianapolis.

For more information, contact Dixie Mattingly, CME coordinator, Graduate Medical Center, Methodist Hospital of Indiana—(317) 929-3733.

## Chicago CME Courses

The Chicago Medical School will sponsor two CME programs later this month:

May 21: "Theories of Aging," Daniel Rudman, Director of Geriatric Medicine, UHS/CMS; no fee or registration.

May 28: "Clinical and Ethical Decision-making in Medicine," Mark Siegler, M.D., Director, Center for Clinical Medical Ethics, University of Chicago Pritzker School of Medicine; no fee or registration.

For information, call Ben Blivaiss, Ph.D., at (312) 578-3215.

## Breast Cancer

"Breast Cancer and Cancer Nursing" will be the subject of the 5th annual Cincinnati Cancer Conference, to be conducted Oct. 31 and Nov. 1.

Cancer specialists will discuss the various modalities in treatment, and sessions will be devoted to nursing issues.

Contact Thomas O'Connor, CME, Bethesda Hospital, 619 Oak St., Cincinnati, Ohio 45206—(513) 569-6339.

## Correctional Health Care

The 10th National Conference on Correctional Health Care will be held at the Washington (D.C.) Hilton Oct. 30 to Nov. 1.

The conference is sponsored by the National Commission on Correctional Health Care for those professionals working in jails, prisons and juvenile confinement facilities. The commission is requesting abstracts of papers for the program.

Write to the commission at 333 E. Ontario St., Suite 2902-B, Chicago 60611, or call Jodie Manes at (312) 440-1574.

## Perinatal Nutrition

"Perinatal Nutrition" is the topic of the Sixth Annual Bristol-Myers Symposium on Nutrition Research, to be held Aug. 28 and 29 at the Grand Hotel in Saltsjobaden, Sweden.

Registration information can be obtained from Ralph D. Weaver, Manager, Public Affairs Services, Bristol-Myers Company, 345 Park Ave., Room 43-38, New York, N.Y. 10154—(212) 546-4319.

The *Journal of the American Medical Association* publishes a list of CME courses for the United States twice yearly. The January listing features courses offered from March through August; the July listing features courses offered from September through February.

## Management Seminars

"Physician in Management Seminars I & II," sponsored by the American Academy of Medical Directors, will be conducted at the Antlers Hotel, Colorado Springs, Colo., June 9 to 13. Completion qualifies for 31 CME credits.

For more information, contact Sherry Mason, AAMD, 4830 W. Kennedy Blvd., Suite 648, Tampa, Fla. 33609—(813) 873-2000.

## Facial Trauma

A Major Facial Trauma Symposium will meet June 12-14 in Nashville, Tenn. It is to be sponsored by the Plastic Surgery Educational Foundation.

Registration fee for members is \$375—non-members, \$425. Residents, nurses, office personnel and spouses receive lower rates.

For the program and registration forms, write to the Foundation at 233 N. Michigan Ave., Suite 1900, Chicago 60601.

## Antarctic Seminars

For those who think Indiana winters are too warm, there are three "Antarctic Medical Seminars" scheduled for next winter. Departure dates are Dec. 14, 1986, and Jan. 9 and 30, 1987. The ship, M.S. Society Explorer, provides the to-and-from trip and is the "hotel" during off-ship excursions.

Lectures will cover the history, fauna, flora, oceanography and many scientific disciplines. CME Category 1 credit is 25 hours.

The point of departure and return will be Miami. The itinerary will be Punta Arenas, Chile, Strait of Magellan, Beagle Channel, Cape Horn, Drake Passage, Antarctic Peninsula, Falkland Islands and South Georgia. Don't worry about the weather because it will be late spring and summer in the travel zone.

For more information, contact International Medical Seminars, 125 Main St., Westport, Conn. 06880—(203) 222-0560 or (800) 551-0019.



## Generics make the price easier to swallow

When you prescribe a generic drug rather than a brand name drug, it's probably because you've decided that your patient will benefit from the difference in prices. And at Peoples, we make sure that the price difference is the only difference, because the generic drugs we offer your patients are equivalent in quality to brand name drugs.

We were one of the first chains in America to initiate a comprehensive generic drug program, and we believe we stock the largest supply of both brand name and generic drugs. Why? Because we know that for some patients, a healthy savings is strong medicine, too.

For over 80 years, Peoples Drug Stores has served patients reliably and professionally. Today, all the services we offer reflect our continuing commitment to help our customers as their health care needs change.

*Every Peoples has an unlisted phone that's reserved only for doctors and answered only by pharmacists. Please call your local store to obtain the number.*





## PUBLIC HEALTH NOTES

A tremendous amount of public attention has been focused on issues relating to acquired immunodeficiency syndrome, AIDS. The physician's responsibility in reporting the disease, in being asked to testify about a particular patient's medical condition, or in keeping patient medical records confidential raises questions throughout the medical field.

Since AIDS or ARC is considered to be a communicable disease, it is the duty of all physicians to report, within 24 hours, all cases and suspected cases of AIDS/ARC to the local health officer and/or the Indiana State Board of Health (410 IAC 1-2-2). This affirmative duty to report should not be confused with the issue of whether a physician can testify regarding patient communications.

An Indiana statute states that a physician *may not*, without his patient's consent, testify about matters communicated to him in confidence by the patient during consultation in his professional capacity (IC 34-1-14-5). The statute identifies physicians as persons who shall not be competent witnesses. The purpose of this statute is to inspire full and complete disclosure of information pertinent to the physician-patient relationship. The communication includes information the physician obtains by observation or testing. This statute does not prohibit asking the physician for an expert opinion based on a hypothetical question.

Another issue a physician should be aware of is access to health records. The statute that relates to access to health records basically deals with the rights of patients to request a copy of their health record from a physician (IC 16-4-8-1). The statute covers who is entitled to such health records, when a physician may withhold information, when a physician is immune from libel or slander arising from information or entries made in a patient's health record, and how the physician should protect the confidentiality of the record.

If you desire any further information about reporting and confidentiality issues related to AIDS, contact the Indiana State Board of Health, 317/633-8400.

### The Case Definition of AIDS\*\*

For the limited purposes of national reporting of some of the severe late manifestations of infection with human T-lymphotropic virus, type-III/lymphadenopathy-associated virus (HTLV-III/LAV) in the United States, CDC defines a case of "acquired immunodeficiency syndrome" (AIDS) as an illness characterized by:

I. one or more of the opportunistic diseases that are at least moderately indicative of underlying cellular immunodeficiency, and

II. absence of all known underlying causes of cellular immunodeficiency (other than HTLV-III/LAV infection) and absence of all other causes of reduced resistance reported to be associated with at least one of those opportunistic diseases.

Despite having the above, patients are excluded as AIDS cases if they have negative result(s) on testing for serum antibody to HTLV-III/LAV, do not have a positive culture for HTLV-III/LAV, and have both a normal or high number of T-helper (OKT4 or LEU3) lymphocytes and a normal or high ratio of T-helper or T-suppressor (OKT8 or LEU2) lymphocytes. In the absence of test results, patients satisfying all other criteria in this definition are included as cases.

This general case definition may be made more explicit by specifying:

I. the particular diseases considered at least moderately indicative of cellular immunodeficiency, which are used as indicators of AIDS, and

II. the known causes of cellular immunodeficiency, or other causes of reduced resistance reported to be

associated with particular diseases, which would disqualify a patient as an AIDS case.

### AIDS-Related Complex (ARC)\*\*

*AIDS-related complex (ARC)* is a clinical and laboratory syndrome characterized by minor conditions clinically associated with immunosuppression. To meet the definition of ARC, the following must be present: At least two of the following *clinical* signs/symptoms lasting three or more months *PLUS* two or more of the following *laboratory* abnormalities, occurring in a patient having no underlying infectious cause for the symptoms and who is in a cohort at increased risk for developing AIDS.

#### Clinical

1. Fever:  $> 100^{\circ}\text{F.}$ , intermittent or continuous, for at least three months, in the absence of other identifiable causes.

2. Weight Loss:  $> 10\%$  or  $> 15\text{ lbs.}$

3. Lymphadenopathy: persistent for at least three months, involving  $> 2$  extra-inguinal node bearing areas.

4. Diarrhea: intermittent or continuous,  $> 3$  months, in the absence of other identifiable causes.

5. Fatigue, to the point of decreased physical or mental function.

6. Night Sweats: intermittent or continuous,  $> 3$  months, in the absence of other identifiable causes.

#### Laboratory

1. Depressed helper T-cells. ( $> 2$  standard deviations below mean).

2. Depressed helper/suppressor ratio. ( $> 2$  standard deviations below mean).

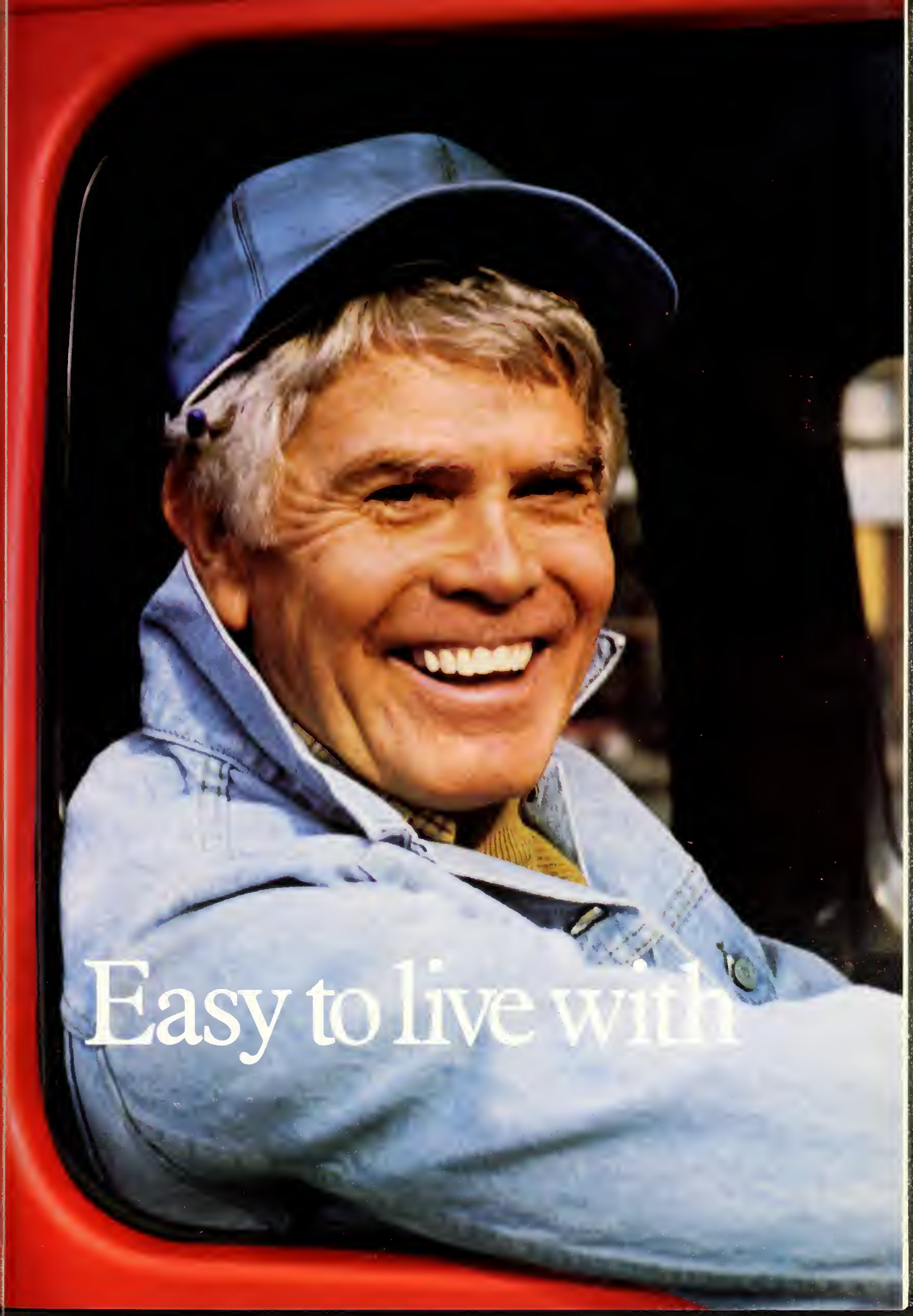
3. At least *one* of the following: leukopenia, thrombocytopenia, absolute lymphopenia or anemia.

4. Elevated serum globulins.

5. Depressed blastogenesis (pokeweed and PHA).

6. Abnormal skin tests (using Multi-Test or equivalent).

\*\*AIDS and ARC as defined by the Centers for Disease Control.

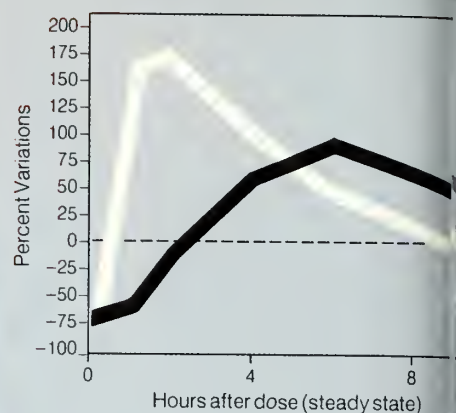


Easy to live with





## INDERAL LA a



- **INDERAL LA** avoids the sharp peak seen with atenolol

# Blood pressure controlled

## Smooth blood pressure control and well tolerated

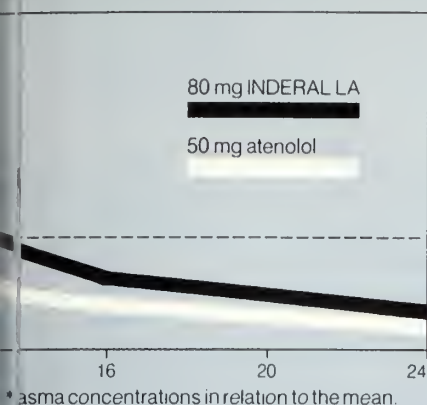
Once-daily **INDERAL LA** (propranolol HCl) keeps life simple for the patient. A single dose provides 24-hour blood pressure control. Convenient and well tolerated, **INDERAL LA** rarely interferes with everyday living. In fact, a recent study of 138 patients found a low incidence of side effects with **INDERAL LA**, which was not significantly different from that reported with metoprolol and atenolol.<sup>2</sup>

**INDERAL LA** should not be used in the presence of congestive heart failure, sinus bradycardia, cardiogenic shock, heart block greater than first degree, and bronchial asthma.

**Once-daily**  
**INDERAL<sup>®</sup> LA**  
 (PROPRANOLOL HCl) **Long Acting Capsules**



atenolol over 24 hours\*<sup>1</sup>



- Smooth, consistent plasma drug levels over 24 hours
- Full, 24-hour blood pressure control with INDERAL LA



# and feeling good.

## Added blood pressure control with the preferred diuretic

When more than one antihypertensive agent is needed, once-daily INDERIDE LA enhances patient compliance to improve long-term control. Patients receive all the benefits of controlled-release INDERAL LA and standard-release hydrochlorothiazide (HCTZ), for comfortable morning diuresis. Not only does this regimen permit patients to follow normal daily routines, but HCTZ also produces less potassium wastage on a mg-for-mg basis than chlorthalidone.<sup>3,4</sup>

**Once-daily**  
**INDERIDE LA**  
(PROPRANOLOL HCl /INDERAL® LA/  
HYDROCHLOROTHIAZIDE)

As with all fixed-combination antihypertensives, INDERIDE LA is not indicated for the initial treatment of hypertension.

Please turn page for brief summary of prescribing information.

# Once-daily INDERAL® LA (PROPRANOLOL HCl) LONG ACTING CAPSULES



The appearance of these capsules is a registered trademark of Ayerst Laboratories

BRIEF SUMMARY (FOR FULL PRESCRIBING INFORMATION SEE PACKAGE CIRCULARS)

**INDERAL® LA** Brand of PROPRANOLOL HYDROCHLORIDE (Long Acting Capsules)  
**INDERIDE® LA** Brand of PROPRANOLOL HYDROCHLORIDE (INDERAL® LA) and HYDROCHLOROTHIAZIDE (Long Acting Capsules)

INDERAL LA AND INDERIDE LA Capsules should not be considered simple mg-for-mg substitutes for INDERAL and INDERIDE Tablets. Please see package circulars

## CONTRAINDICATIONS

**Propranolol hydrochloride (INDERAL® LA):** Propranolol is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with propranolol

**Hydrochlorothiazide:** Hydrochlorothiazide is contraindicated in patients with anuria or hypersensitivity to this or other sulfonamide-derived drugs

## WARNINGS

**Propranolol hydrochloride (INDERAL® LA):** CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow up in patients with a history of failure who are well compensated, and are receiving digitalis and diuretics. Beta adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or propranolol should be discontinued (gradually, if possible)

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction following abrupt discontinuance of propranolol therapy. Therefore, when discontinuance of propranolol is planned the dosage should be gradually reduced and the patient carefully monitored. In addition, when propranolol is prescribed for angina pectoris, the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If propranolol therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute propranolol therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications

**THYROTOXICOSIS:** Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol

**MAJOR SURGERY:** The necessity or desirability of withdrawal of beta blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures

**Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD, IN GENERAL, NOT RECEIVE BETA BLOCKERS.** Inderal should be administered with caution, since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors

**DIABETES AND HYPOLYCEMIA:** Beta adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin. Hypoglycemic attacks may be accompanied by a precipitous elevation of blood pressure

**Hydrochlorothiazide:** Thiazides should be used with caution in severe renal disease. In patients with renal disease, thiazides may precipitate azotemia. In patients with impaired renal function, cumulative effects of the drug may develop

Thiazides should also be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma

Thiazides may add to or potentiate the action of other antihypertensive drugs. Potentiation occurs with ganglionic or peripheral adrenergic-blocking drugs

Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma. The possibility of exacerbation or activation of systemic lupus erythematosus has been reported

## PRECAUTIONS

**Propranolol hydrochloride (INDERAL® LA):** GENERAL: Propranolol should be used with caution in patients with impaired hepatic or renal function. Propranolol is not indicated for the treatment of hypertensive emergencies

Beta adrenoceptor blockade can cause reduction of intraocular pressure. Patients should be told that propranolol may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure

**CLINICAL LABORATORY TESTS:** Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase

**DRUG INTERACTIONS:** Patients receiving catecholamine-depleting drugs, such as reserpine should be closely observed if propranolol is administered. The added catecholamine blocking action may produce an excessive reduction of resting sympathetic nervous activity, which may result in hypotension, marked bradycardia, vertigo, syncope attacks, or orthostatic hypotension

**CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY:** Long term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18 month studies, in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug

**PREGNANCY:** Pregnancy Category C. Propranolol has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximal recommended human dose. There are no adequate and well-controlled studies in pregnant women. Propranolol should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus

# Once-daily INDERIDE® LA

Each capsule contains propranolol HCl (INDERAL® LA) 80 mg, 120 mg, or 160 mg, and hydrochlorothiazide 50 mg



The appearance of these capsules is a registered trademark of Ayerst Laboratories

**NURSING MOTHERS:** Propranolol is excreted in human milk. Caution should be exercised when propranolol is administered to a nursing mother

**PEDIATRIC USE:** Safety and effectiveness in children have not been established

**Hydrochlorothiazide:** GENERAL: Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals

All patients receiving thiazide therapy should be observed for clinical signs of fluid or electrolyte imbalance, namely: Hyponatremia, hypochloremic alkalosis, and hypokalemia. Serum and electrolyte determinations are particularly important when the patient is vomiting excessively, receiving parenteral fluids. Medication such as digitalis may also influence serum electrolytes. Warning signs irrespective of cause are: Dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting

Hypokalemia may develop, especially with brisk diuresis, when severe cirrhosis is present, during concomitant use of corticosteroids or ACTH

Interference with adequate oral electrolyte intake will also contribute to hypokalemia. Hypokalemia can sensitize or exaggerate the response of the heart to the toxic effect of digitalis (eg, increased ventricular irritability). Hypokalemia may be avoided or treated by use of potassium supplements, such as foods with a high potassium content

Any chloride deficit is generally mild and usually does not require specific treatment, except under extraordinary circumstances (as in liver or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction, rather than administration of salt, except in rare instances when the hyponatremia is life-threatening. In actual sodium depletion, appropriate replacement is the therapy of choice

Hyperurcemia may occur or frank gout may be precipitated in certain patients receiving thiazide therapy

Insulin requirements in diabetic patients may be increased, decreased, or unchanged. Diabetes mellitus which has been latent may become manifest during thiazide administration

If progressive renal impairment becomes evident, consider withholding or discontinuing drug therapy

Thiazides may decrease serum PBI levels without signs of thyroid disturbance

Calcium excretion is decreased by thiazides. Pathologic changes in the parathyroid gland with hypercalcemia and hypophosphatemia have been observed in a few patients on prolonged thiazide therapy. The common complications of hyperparathyroidism, such as renal lithiasis, bone resorption, and peptic ulceration, have not been seen. Thiazides should be discontinued before carrying out tests for parathyroid function

**DRUG INTERACTIONS:** Thiazide drugs may increase the responsiveness to tubocurarine

The antihypertensive effects of thiazides may be enhanced in the postsympathectomy patient. Thiazides may decrease arterial responsiveness to norepinephrine. This diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use

**PREGNANCY:** Pregnancy Category C. Thiazides cross the placental barrier and appear in fetal blood. The use of thiazides in pregnancy requires that the anticipated benefit be weighed against possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult

**NURSING MOTHERS:** Thiazides appear in human milk. If use of the drug is deemed essential, the patient should stop nursing

**PEDIATRIC USE:** Safety and effectiveness in children have not been established

## ADVERSE REACTIONS

**Propranolol hydrochloride (INDERAL® LA):** Most adverse effects have been mild, transient and have rarely required the withdrawal of therapy

**Cardiovascular:** Bradycardia, congestive heart failure, intensification of AV block, hypotension, paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type

**Central Nervous System:** Lightheadedness, mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to cataplexy, visual disturbances, hallucinations; an acute reversible syndrome characterized by disorientation of time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics

**Gastrointestinal:** Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis

**Allergic:** Pharyngitis and agranulocytosis, erythematous rash, fever combined with aching sore throat, laryngospasm and respiratory distress

**Respiratory:** Bronchospasm

**Hematologic:** Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura

**Auto-Immune:** In extremely rare instances, systemic lupus erythematosus has been reported

**Miscellaneous:** Alopecia, LE-like reactions, psoriasisiform rashes, dry eyes, male impotence

Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the serous membranes, and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol

## Hydrochlorothiazide:

**Gastrointestinal:** Anorexia, gastric irritation, nausea, vomiting, cramping, diarrhea, constipation, jaundice (intrahepatic cholestatic jaundice), pancreatitis, sialadenitis

**Central Nervous System:** Dizziness, vertigo, paresthesias, headache, xanthopsia

**Hematologic:** Leukopenia, agranulocytosis, thrombocytopenia, aplastic anemia

**Cardiovascular:** Orthostatic hypotension (may be aggravated by alcohol, barbiturates, narcotics)

**Hypersensitivity:** Purpura, photosensitivity, rash, urticaria, necrotizing angitis (vasculitis), fever, respiratory distress, including pneumonitis, anaphylactic reaction

**Other:** Hyperglycemia, glycosuria, hyperuricemia, muscle spasm, weakness, restlessness, transient blurred vision

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduced or therapy withdrawn

\*The appearance of these capsules is a registered trademark of Ayerst Laboratories

## REFERENCES

1. Data on file, Ayerst Laboratories. 2. Ravid M, Lang R, Jutrin I. The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern Med* 1985;145:1321-1323. 3. Sumiyi L, Vivian AS, Frisot KB, et al. Potassium loss associated with hydrochlorothiazide versus chlorthalidone. *Clin Ther* 1981;4:308-320. 4. Ram CVS, Garrett Kaplan NM. Moderate sodium restriction and various diuretics in the treatment of hypertension. *Arch Intern Med* 1981;141:1015-1019

**Ayerst**

AYERST LABORATORIES  
New York, NY 10017

© 1986 Ayerst Laboratories



# CANCER CORNER

WILLIAM M. DUGAN, JR., M.D.

Clinical Oncology Center, Methodist Hospital of Indiana

The 14th International Cancer Congress will be held in Budapest, Hungary Aug. 21-27, 1986. The Cancer Congress is held every four years, under the auspices of the International Union Against Cancer, and is a forum for worldwide exchange of information about cancer. More than 10,000 nurses, scientists and physicians are expected to attend.

To encourage more participation by student nurses, a private foundation is offering 80 fellowships to cover expenses to the Congress. A total of \$200,000 will be awarded to nursing students entering their final year at schools accredited by the National League for Nursing.

For more information on the fellowships, contact Franklin A. Shaffer, EdD, RN, Deputy Director, National League for Nursing, 16 Columbus Circle, New York, N.Y. 10019, (212) 582-1022; to learn more about the conference, write Congress Bureau Motesz, Budapest, POB 32, H-1361, Hungary.

In 1981, the National Conference on Oncology Units, sponsored by the Oregon Comprehensive Cancer Program, produced a set of recommendations for the planning, organization and operation of specialized oncology units.

The recommendations and a discussion of their development are described by Jean R. Moseley and Julia S. Brown in their article, "The Organization and Operation of Oncology Units," published in the September/October 1985 issue of *Oncology Nursing Forum* (Vol. 12, No. 5, pp. 17-24). The recommendations follow the format used by the Joint Commission for the Accreditation of Hospitals for their Standards for Special Care Units.

Moseley and Brown present survey data from 42 oncology units which were planned, organized, and operated in ways compatible with the guidelines. The authors also suggest future directions for guideline modifications.

*Oncology Nursing Forum* is the official publication of the Oncology Nursing Society and is available in many hospital and medical libraries.

The Fourth Annual ECP Symposium on Concepts and Theories in Carcinogenesis, sponsored by the European Organization for Cooperation in Cancer Prevention Studies, will be held June 12 and 13, 1986 in Bruges, Belgium. Plenary review lectures will cover such topics as biochemistry of cell proliferation and differentiation; normal versus neoplastic tissue behavior; immune mechanisms; oncogenes and RNA viruses; DNA viruses and carcinogenesis; genetics and cancer; and hormones and carcinogenesis. In addition, there will be panel discussions and a poster session. For further information, contact: ECP Secretariat, Avenue Lambeau 62, B-1200 Brussels, Belgium (telex: 62173 PRP B).

AIDS Hysteria Is Sweeping the Country. Physicians and health care professionals need access to factual information. Three references offered are: 1) *Morbidity and Mortality Weekly Report (MMWR)*, Update: Evaluation of Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus Infection in Health-Care Personnel-United States, U.S. Department of Health & Human Services/Public Health Service-Sept. 27, 1985/Vol. 34/No. 38; 2) *Morbidity and Mortality Weekly Report (MMWR)*, Summary: Recommendations for

Preventing Transmission of Infection with Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus in the Workplace, U.S. Dept. of Health and Human Services/Public Health Service Nov. 15, 1985/Vol. 34/No. 45; and 3) *AIDS Center News* (published by the World Hemophilia AIDS Center) Status of Transfusion Therapy, December 1985 - Vol. 2, No. 4.

This information is provided by the National Hemophilia Foundation, The Sollo Building, 110 Greene St., Room 406, New York, N.Y. 10012, (212) 219-8180.

The Connecticut Hospice Institute is offering two new educational items. "A Guide to Hospice Orientation" is complete programmatic material for the orientation of professionals to hospice. It includes a 250-page book and six illustrative videotapes. "The Hospital Training Program" includes a selection from 10 videotapes plus study guides that suggest teaching modes. This program can be used to help train all health care community members. For a complete description of these new educational products, contact Ellen Kessner, Director of Education, The Connecticut Hospice Institute, 61 Burban Drive, Branford, Conn. 06405 - (203) 481-6231.

For a Complimentary Subscription to *Oncology Times*, send your name, institution, address, city, state and ZIP code to *Oncology Times*, 404 Park Avenue South - 9th Floor, New York, N.Y. 10016.



INDIANA MEDICINE offers its readers a Continuing Medical Education series of articles prepared by the faculty of the Indiana University School of Medicine. The program is coordinated and supported by a grant from the school's Division of Continuing Medical Education.

As an organization accredited for continuing medical education, the Indiana University School of Medicine certifies that this CME activity meets the criteria for one credit hour in Category 1 for the Physician's Recognition Award of the American Medical Association, provided it is used and completed as designated.

To obtain Category 1 credit for this month's article, complete the quiz on page 489.



## Dissociative Disorders: Diagnosis and Treatment

---

PHILIP M. COONS, M.D.  
Indianapolis

---

**D**ISSOCIATIVE DISORDERS are characterized by "... a sudden, temporary alteration in the normally integrative functions of consciousness, identity, or motor behavior."<sup>1</sup> If, for example, the alteration occurs in consciousness, which is usually the case, memory is lost temporarily for significant personal events. Thus, amnesia is the main characteristic of the dissociative disorders, which include psychogenic amnesia, psychogenic fugue and multiple personality.

The author is an Assistant Professor of Psychiatry, Indiana University School of Medicine, Indianapolis.

Correspondence: Larue D. Carter Memorial Hospital, 1315 W. 10th St., Indianapolis, Ind. 46209.

---

### Abstract

The dissociative disorders constitute an important psychiatric diagnostic category because the symptoms of these disorders including amnesia, depersonalization and derealization can be easily confused with organic mental disorders, substance use disorders and epilepsy. Associated symptoms such as depression, hallucinations and somatization make these disorders hard to differentiate from other psychiatric disturbances.

Although dissociative disorders are

not common, they are not rare. Dissociation is frequently associated with psychogenic trauma including that caused by natural disasters, severe accidents, combat, concentration camp experiences, severe marital stress and child abuse. With the exception of depersonalization disorder, the dissociative disorders are treatable and have a good prognosis. Treatment is largely psychotherapeutic, but, on occasion, psychopharmacologic management is useful.

---

Personal identity may be lost or replaced in any of these disorders. In psychogenic fugue, which is characterized by physical wandering, there is alteration in motor behavior. Many experts question the inclusion of depersonalization disorder within dissociative disorders because of the lack of amnesia. It has been included only

because the characteristic sense of self-estrangement and/or loss of reality found in depersonalization disorder are felt to be important aberrations of identity.

The concept of dissociation, which is defined as an unconscious defense mechanism whereby emotional significance and feeling are detached

from consciousness, was first formulated by Dr. Pierre Janet.<sup>2</sup> This concept was further developed by the dissociationists, the most famous of whom was Dr. Morton Prince.<sup>3</sup> Even Dr. Sigmund Freud had an interest, albeit fleeting, in dissociative disorders. His famous case of Anna O., which he shared with Josef Breuer, experienced alterations in identity and consciousness in addition to psychogenic headaches and conversion paralysis.<sup>4</sup> Freud and Breuer were the first to conceive that traumatic experiences might be forgotten if they were considered unacceptable to the conscious mind.

#### Epidemiology

The epidemiology of the dissociative disorders is not well known. Traditionally, these disorders have been considered to be rare. However, the incidence of psychogenic amnesia and psychogenic fugue rises markedly during wartime and natural disasters. Multiple personality is now known to occur much more commonly than was previously thought.<sup>5</sup> The most conservative estimate of the number of multiple personality cases is 6,000 nationwide.<sup>6</sup> Although the symptom of depersonalization is common and may have occurred at some time in the lives of 50% of normal college students in several studies, little is known about the incidence of true depersonalization disorder.

#### Etiology

Dissociation has been linked to the experience of extreme stress or trauma.<sup>7</sup> Five to 20% of veterans are amnesic for some part of their combat experience. This incidence of amnesia appears directly proportional to the degree of combat stress.<sup>8</sup> Ables and Schilder found that either a severe financial crisis, such as bankruptcy, or a severe marital crisis were present in most of the 63 peacetime cases of psychogenic amnesia which they studied.<sup>9</sup> Multiple personality disorder has been linked to physical and sexual

abuse beginning in early childhood.<sup>10,11,12</sup> In these studies, sexual abuse varied from 75-90% and physical abuse varied from 50-83%. Virtually 100% suffered from some type of child abuse. The experience of depersonalization has been linked to concentration camp experiences, life-threatening episodes such as severe accidents, and near-death experiences.<sup>13,14,15</sup>

#### Clinical Description

*Psychogenic amnesia.* Psychogenic amnesia is characterized by the sudden

---

### 5% to 20% of Veterans Are Amnesic for Some Part of Their Combat Experience . . .

---

inability to remember important personal information.<sup>1</sup> This disturbance in memory is greater than in ordinary forgetfulness and is not due to organic causes such as severe head trauma or substance abuse.<sup>16,17</sup> In most cases of psychogenic amnesia, there is total loss of memory for events surrounding a traumatic event. Less commonly, there is selective amnesia for some of the events during a particular time period. Rarely, amnesia encompasses the individual's entire lifetime. If examined during the amnesic episode, the individual will usually appear perplexed or disoriented, but if the amnesic episode is past, the individual will usually be aware of having lost time. The sex incidence of amnesia is about equal, and most cases of amnesia arise in the third and fourth decades.<sup>18</sup>

*Psychogenic fugue.* A psychogenic fugue is characterized by the sudden unexpected travel away from one's residence or usual work locale. This wandering is coupled with the inability to remember one's previous

identity.<sup>1</sup> During the fugue, perplexity and disorientation sometimes occur. If the fugue is prolonged, the assumption of a new identity may occur. In such instances, the individual can apparently function in a well-integrated manner and does not appear to be mentally ill to the casual observer. Most fugues, however, last but a few hours to a few days and are characterized by travel from several miles to several hundred miles away from home. As with psychogenic amnesia, psychogenic fugue is not due to organic causes. Although the heavy use of alcohol may be associated with persons prone to fugue, the fugue is not a part of the familiar alcoholic blackout.<sup>19</sup> Depression has been reported to be a frequent accompaniment of fugue states.<sup>20,21</sup>

*Multiple personality.* In multiple personality there is the formation of new identities or personality states, each of which is in control of the individual at any particular time.<sup>1</sup> The personality states alternate with one another, and, although the transition is sudden and usually associated with emotional stress, the switch may not be noticed by the casual observer, or, if it is, may be attributed to a mood change.<sup>5</sup>

The original personality is usually unaware or amnesic of the other personality states. The secondary personalities are aware of each other and of the original personality in varying degrees. In many cases a memory trace personality exists and functions to contain the entire life history of the individual. Some personalities possess what has been termed coconsciousness, or the ability to know what is happening even when another personality is functioning. The different personalities may experience the amnesia as lost periods of time. However, the amnesia may not be immediately obvious as the original personality may be unaware of losing time or may be reluctant to share this information for fear of being stigmatized.<sup>22</sup>

The differences among personalities may be very great, but are usually quite subtle and are often mistaken for



mood changes. Usually the original personality is shy, withdrawn and depleted of emotion. The secondary or alternate personalities generally have different functions such as to handle anger, depression or sexuality. Personalities may be of different age, sex and sexual orientation.<sup>23</sup> Some even have the quasi-delusional belief that they have different hair color, eye color, physique or parentage.<sup>24</sup> Generally, each personality chooses a proper name for itself, but these names may not be shared with the clinician initially. Switching between personalities is generally precipitated by emotional stress.

Occasionally, patients with multiple personality suffer from psychotic symptoms. This generally takes the form of a brief psychosis. In another form of psychosis, a single personality may be psychotic with delusions and hallucinations. Often some of the personalities will hear the voices or "inner conversations" of other personalities. This phenomenon is not to be confused with auditory hallucinations of other psychoses, such as schizophrenia, where the hallucinations usually appear to come from outside the self.

Multiple personality disorder is associated with somatoform disorders,<sup>22,25,26</sup> psychosomatic disorders,<sup>27</sup> and psychosexual disturbances.<sup>12,22,25,26</sup> Headaches are an extremely common disturbance and frequently herald the switch between personalities or a struggle for control between two personalities. Conversion reactions of all types have been observed in about half of all multiple personalities over the course of their illness.<sup>12</sup> As might be expected, psychosexual disorders, including inhibited sexual desire, inhibited sexual excitement and inhibited female orgasm, occur as a result of the sexual abuse. Self-mutilation and dermatitis artefacta have been reported.<sup>27</sup> Generally, a secondary personality, unknown to the host personality, will mysteriously mutilate the patient.

Intriguing results have been

reported by using the new brain imaging techniques with patients who have multiple personality. In a preliminary report, Putnam found differences in visual-evoked potentials using brain-electrical-activity mapping among dif-

---

## The Person with a Multiple Personality May Have Been Abused as a Child . . .

---

ferent personalities.<sup>28</sup> In a single case study, Mathew, *et al.* used regional-cerebral-blood-flow techniques and found right temporal hyperperfusion in an alternate personality compared to the host personality.<sup>29</sup> The significance of these findings are, as yet, unknown.

The onset of multiple personality is usually in early childhood during the period of child abuse. However, the syndrome of multiple personality is not usually diagnosed until late adolescence or early adulthood because of its subtlety and the reluctance of child-abusing parents to seek help for fear of legal involvement.

*Depersonalization disorder.* The symptom of depersonalization involves an altered perception of the self so that one feels unreal or strange. Depersonalization has been variously described as including feelings of estrangement, feelings of alienation, a detached spectator-like watching of oneself, loss of identity, dreamlike experiences, loss of feeling, feeling dead, feeling controlled or that one's actions are automatic, and feeling that body parts are distorted.<sup>1,30</sup>

Symptoms of derealization often accompany depersonalization. These symptoms involve a perception that the external world has changed or has become unreal. Such symptoms involve the perception that objects have

changed size or shape, or feeling that other people have changed and become unreal.

Although the symptom of depersonalization is extremely common, the full-blown syndrome of depersonalization disorder is rare. Depersonalization symptoms occur as a result of natural and manmade disasters, substance abuse, near-death experiences, schizophrenia, organic brain disorders, seizure disorders, depressive disorders and anxiety disorders.

Depersonalization disorder which is not due to any of the aforementioned causes is uncommon. For depersonalization disorder to be diagnosed, the symptoms of depersonalization must produce significant impairment in social or occupational functioning. Age of onset is usually in late adolescence or early adulthood. The course of the illness appears to be chronic and is marked by remissions and exacerbations. The illness can be devastating during the exacerbations because the patient often fears insanity and occasionally will attempt suicide to escape the frightening feelings of depersonalization and derealization.

*Atypical dissociative disorder.* This is a residual category reserved for dissociation which does not meet the specific criteria for any of the other dissociative disorders. Trance-like states, prolonged dissociation in POWs, concentration camp inmates, hostages or cult members secondary to brainwashing, and derealization not accompanied by dissociation are categorized here.<sup>1,25</sup>

*Proposed dissociative disorders.* The work group to revise the psychiatric diagnostic manual, *DSM-III*, has proposed the addition of several other dissociative disorders.<sup>31</sup> The first, trance/possession disorder, is marked by an altered state of consciousness and the belief that one has been taken over by a spirit or another person. This state occurs outside of a culturally sanctioned or religious context. Although such states have been reported throughout the world, until now they



have not had a diagnostic category of their own.<sup>25</sup>

It has been proposed that the residual category for dissociative disorders be renamed dissociative disorder NOS (not otherwise specified). The Ganser syndrome, or prison psychosis, will be included here because of the frequent occurrence of amnesia in this disorder. Variants of multiple personality and amnesic states in children occurring after child abuse also will be classified in this residual category.

### Differential Diagnosis

The differential diagnosis of the dissociative disorders is extremely important because of the similarity of the syndromes with one another, with other psychiatric disorders, and with numerous physical illnesses which have psychological symptoms. The most important disorders which should be differentiated include the organic mental disorders (organic brain syndromes), substance use disorders, the psychotic disorders including schizophrenia, the affective disorders, epilepsy and malingering.

The amnesia present in the dissociative disorders can generally be differentiated from that of the organic mental disorders because, in the latter, the onset has no relationship to emotional stress. In addition, other symptoms of organic mental disorder are usually present. These symptoms include disorientation, confusion, lability of affect, loss of intellect and impaired judgment. Physical and/or laboratory evidence of organic brain dysfunction also are usually present. Finally, memory dysfunction in the organic mental disorders generally does not return, except as in the case of an acute delirium.

Psychogenic fugue may occasionally be very difficult to differentiate from organic mental disorder because organic fugues may occur with traumatic head injuries, brain tumors, migraine, malaria, steroid toxicity, hypertensive encephalopathy, and

various metabolic alterations, such as uremia and hypoglycemia. Just as in amnesia of organic origin, there is little evidence of a psychiatric disorder and usually ample evidence of an underlying physical disorder.<sup>32</sup>

In the substance use disorders, "blackouts" may have occurred during the intoxication phase, so that the individual cannot remember the quantity of substances ingested or subsequent behavior, such as how one arrived home. The history of prior substance use and the failure to recover memory except during subsequent intoxication (state-dependent learning) generally differentiates this type of organic memory loss from the psychogenic.

Temporal lobe epilepsy can be especially difficult to differentiate from

recovered during a sodium amytal interview. The best diagnostic tool appears to be repeated EEGs with sleep deprivation and using nasopharyngeal leads.<sup>36</sup>

Occasionally, schizophrenia may resemble one of the dissociative disorders. The amnesic individual may resemble someone in a catatonic stupor, especially if negativism is present. However, in psychogenic amnesia there is generally no prior history of schizophrenia, and other catatonic symptoms, such as rigidity and posturing, do not occur. Fugues may occur in schizophrenia, but there is almost always evidence of prior schizophrenic symptoms.<sup>32</sup> Individuals with multiple personality are occasionally misdiagnosed as schizophrenic because of their inner hallucinatory experiences, but the primary symptoms of schizophrenia, including flattened affect, disordered thinking, autism and ambivalence, are not present.<sup>25</sup>

Sometimes the affective disorders can present a diagnostic dilemma. Fugues have been noted to occur in depression.<sup>32</sup> Multiple personality most often presents with depression and suicidality, and the personality changes have often been confused with manic depressive disorder.<sup>25</sup>

For the clinician involved in forensic evaluations, the differentiation of true dissociation from malingering can be particularly difficult. The clinician should always have an increased index of suspicion of malingering in the forensic setting because amnesia is easy to feign and the gain associated with avoiding criminal responsibility is always tempting. A lack of dissociation prior to the crime, overdramatization, and inconsistencies in the suspect's story should alert the clinician to possible malingering.<sup>37</sup> In addition, malingerers often refuse to undergo sodium amytal or hypnotic interviews.<sup>32</sup>

Factitious dermatologic disorders may occur in multiple personality. Examples include self-mutilation with knives, glass or razor blades; self-inflicted burns with cigarettes or

---

## At Times, Schizophrenia May Resemble One of the Dissociative Disorders . . .

---

the dissociative disorders because amnesia, fugue, depersonalization and derealization may occur in this form of epilepsy.<sup>32,33,34</sup> Some types of motor impairment, such as fumbling with clothes or lip smacking, often are noted in temporal lobe epilepsy. Although an individual with temporal lobe epilepsy may wander in a semi-purposeful manner and may even become violent when forcibly restrained, there is general agreement that willful action requiring prior planning, such as in the case of premeditated murder, does not occur in temporal lobe epilepsy. Various premeditated crimes can occur with multiple personality, however, and appear to be planned by a personality of which the host personality is unaware.<sup>35</sup> The amnesia in epilepsy cannot be

cigarette lighters; or, rarely, lymphadema and factitial dermatitis.<sup>25,27</sup> The clinician should always closely question the patient with factitial dermatologic disorders about episodes of amnesia.

Dissociation is present in a number of conditions not attributable to mental disorder. These include mediumships, crystal gazing, automatic writing, imaginary playmates and religious rituals.<sup>25,48</sup> These states are easily differentiated by the lack of accompanying mental disorder.

#### Course and Prognosis

In both psychogenic amnesia and psychogenic fugue, the course is generally short. Recovery is usually complete and recurrences are rare. Rarely, fugues continue for many months and involve travel over many thousands of miles. In depersonalization disorder, the course is generally chronic with remissions and exacerbations. Untreated multiple personality assumes a chronic course, but with advancing age, dissociation becomes less frequent and less dramatic. With proper treatment, multiple personality can be cured, but the therapy is arduous and may last many months to as many as 10 or 15 years.

#### Treatment

The treatment of psychogenic amnesia or psychogenic fugue is relatively straightforward. In some cases, it is possible to recover lost memories within the span of several interviews. Dreams, fantasies or hallucinations often provide valuable clues about lost memories. In other cases, this approach will not work, so interviewing under sodium amytal or hypnosis is needed to recover the memories. It should be suggested, of course, that these memories be retained in the waking state.

If none of these measures work, the clinician should consider the possibility of malingering or the possibility that the patient does not want to know and that the unconscious is protecting

the patient against an extremely distressing situation. In the latter case, the reason for this resistance should be thoroughly explored. If the amnesia was caused by some kind of trauma, then the traumatic event should be explored to allow the patient to undergo a catharsis and working-through process. Repeated discussions of the traumatic event are most helpful and allow the working-through process to

---

### With Proper Treatment, Multiple Personality Can Be Cured, But the Therapy is Arduous . . .

---

proceed with less and less anxiety and fear. If intrapsychic conflicts or marital conflicts appear to have caused the amnesia, these conflicts should be thoroughly explored. In the case of marital conflict, the spouse may be involved in conjoint marital therapy, in addition. The only indication for psychopharmacologic intervention, other than the use of sodium amytal, would be the brief use of anxiolytic agents for severe anxiety experienced during the uncovering process of therapy.

Due to the rarity of the true depersonalization disorder, little is known about its treatment. A variety of approaches have been undertaken, including the use of psychodynamic psychotherapy, supportive psychotherapy, antidepressants, anxiolytics and major tranquilizers. At this time, there is insufficient information upon which to base any particular therapeutic regimen.

More has been written recently about the treatment of multiple personality than any of the other dissociative disorders.<sup>39,40</sup> Like psychogenic amnesia and psychogenic

fugue, the treatment of multiple personality is largely psychotherapeutic.

The initial phase of therapy with a patient with multiple personality involves the establishment of trust. This can be difficult since the patient was often abused as a child and usually finds trusting others difficult. During this initial phase the clinician must discover the names, ages, functions and reasons for splitting off of all alternate personalities. In addition, the patient must begin to gain an understanding of what it means to have multiple personality. This increased understanding may be facilitated by the use of audio recordings, videotape recordings, old family photographs, journal writing, hypnosis and feedback from others such as family members and the therapist. Using these methods, the patient can actually see what the other personalities are like and can begin to break down amnesic barriers.

The middle phase of therapy often extends into years of work. The patient should be helped to understand that each personality is a dissociated aspect of the self. Cooperation between alternate personalities should be encouraged. The various traumas which caused each alternate personality to appear should be uncovered and worked through. The host personality must learn to deal with the previously dissociated affects and impulses. The amnesic barriers are broken down further by the retrieval of memories through hypnotic and non-hypnotic means. Resistance to treatment during this middle phase are formidable and often are characterized by the patient wanting to flee therapy.

The later phase of therapy with multiple personality is characterized by fusion or integration of the separate personalities. The early forced integration of personalities or the forced expulsion of personalities is to be deplored because of the high risk of redissociation if these measures are undertaken. Integration may occur spontaneously or may be aided through hypnotic fantasy. After integration



takes place, the patient should remain in therapy for a while to consolidate gains and practice coping without dissociation.

Occasionally, psychopharmacologic intervention is helpful in the treatment of multiple personality. Antipsychotic medication may be useful during brief psychotic episodes, but should be tapered and stopped upon termination of the psychosis. Antidepressants are sometimes useful, especially if the host personality or most of the alternate personalities are depressed. The use of anxiolytics should be avoided because of the high substance abuse potential found in patients with multiple personality.

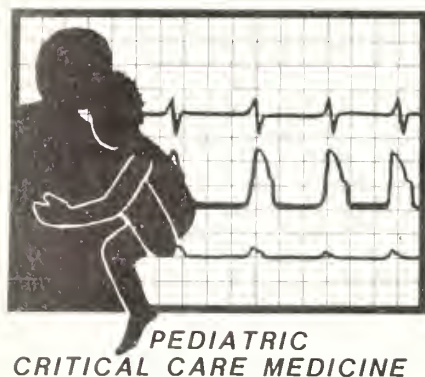
The behavioral treatment of dissociation has only been attempted with multiple personality.<sup>41,42</sup> Since these studies have not been replicated and since long term follow-up has not been reported with these approaches, behavior therapy cannot be recommended at this time.

#### REFERENCES

1. American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed). American Psychiatric Association, Washington DC, 1980, pp. 253-260.
2. Janet P: *The Major Symptoms of Hysteria*. Macmillan, London, 1907.
3. Prince M: *Clinical and Experimental Studies in Personality*. Sci-Art, Cambridge, 1929.
4. Freud S, Breuer J: *Studies on Hysteria*. Complete Psychological Works, Vol. II. Hogarth Press, London, 1955.
5. Kluft RP: The natural history of multiple personality disorder. In *Childhood Antecedents of Multiple Personality*, Kluft RP (ed), American Psychiatric Association, Washington, DC, 1985, pp. 167-196.
6. Coons PM: *International Society for Clinical and Experimental Hypnosis Newsletter*, 26(2):2, 1985.
7. Putnam FW: Dissociation as a response to extreme trauma. In *Childhood Antecedents of Multiple Personality*, Kluft RP (ed), American Psychiatric Association, Washington, DC, 1985, pp. 65-97.
8. Sargent W, Slater E: Amnesic syndromes of war. *Proc R Soc Med*, 34:757-764, 1941.
9. Ables M, Schilder P: Psychogenic loss of personal identity. *Arch Neurol Psychiatry*, 34:587-604, 1935.
10. Putnam FW, Post RM, Guroff JJ, et al.: 100 cases of multiple personality disorder. *New Research Abstract #77*. American Psychiatric Association, Washington, DC, 1985.
11. Bliss EL: A symptom profile of patients with multiple personalities including MMPI results. *J Nerv Ment Dis*, 172:197-202, 1984.
12. Coons PM: Psychosexual disturbances in multiple personality. *J Clin Psychiatry*, in press.
13. Jacobson E: Depersonalization. *J Am Psychoanal Assoc*, 7:581-609, 1977.
14. Noyes R, Hoenk PR, Kupperman BA, Slymen DJ: Depersonalization in accident victims and psychiatric patients. *J Nerv Ment Dis*, 164:401-407, 1977.
15. Noyes R, Klett R: Depersonalization in response to life-threatening danger. *Compr Psychiatry*, 18:375-384, 1977.
16. Parfitt DN, Gall CM: Psychogenic amnesia: the refusal to remember. *J Ment Sci*, 90:511-531, 1944.
17. Kiersch TA: Amnesia: a clinical study of ninety-eight cases. *Am J Psychiatry*, 119:57-60, 1962.
18. Kanzer M: Amnesia: a statistical study. *Am J Psychiatry*, 96:711-716, 1939.
19. Benington WP, Liddell DW, Foulds GA: A re-evaluation of the fugue. *J Ment Sci*, 102:280-286, 1956.
20. Stengel E: On the etiology of fugue states. *J Ment Sci*, 87:572-599, 1949.
21. Stengel E: Further studies on pathological wandering (fugues with the impulse to wander). *J Ment Sci*, 89:224-241, 1943.
22. Coons PM: Multiple personality: diagnostic considerations. *J Clin Psychiatry*, 41:330-336, 1980.
23. Taylor WS, Martin MF: Multiple Personality. *J Abnorm Soc Psychol*, 39:281-300, 1944.
24. Sutcliffe JP, Jones J: Personal identity, multiple personality, and hypnosis. *Int J Clin Exp Hypn*, 10:231-269, 1962.
25. Coons PM: The differential diagnosis of multiple personality: a comprehensive review. *Psychiatr Clin North Am*, 7(1):51-67, 1984.
26. Bliss EC: Multiple personalities: a report of 14 cases with implications for schizophrenia. *Arch Gen Psychiatry*, 37:1388-1397, 1980.
27. Shelly WB: Dermatitis artefacta induced in a patient by one of her multiple personalities. *Br J Dermatol*, 105:587-589, 1981.
28. Putnam W: The brain: traces of Eve's faces. *Psychology Today*, 16:88, 1982.
29. Mathew RJ, Jack RA, West WS: Regional cerebral blood flow in a patient with multiple personality. *Am J Psychiatry*, 142:504-505, 1985.
30. Dixon JC: Depersonalization phenomena in a sample population of college students. *Br J Psychiatry*, 109:371-375, 1963.
31. American Psychiatric Association. *Draft of DSM-III-R in Development*. American Psychiatric Association, Washington DC, 1985, pp. 106-107.
32. Akhtar S, Brenner I: Differential diagnosis of fugue-like states. *J Clin Psychiatry*, 26:381-385, 1979.
33. Mesulman M: Dissociative states with abnormal temporal lobe EEG. *Arch Neurol*, 38:176-181, 1981.
34. Schenk L, Bear D: Multiple personality and related dissociative phenomena in patients with temporal lobe epilepsy. *Am J Psychiatry*, 138:1311-1316, 1981.
35. Allison RB: The multiple personality defendant in court. *Am J Forensic Psychiatry*, 3:181-191, 1982-1983.
36. Roby DS, Greenburg JO: Sleep deprivation and electroencephalographic abnormalities. *J Clin Psychiatry*, 39:542-543, 1978.
37. Orne MT, Dinges DF, Orne EC: Difficulties diagnosing the multiple personality syndromes in a death penalty case. *Int J Clin Exp Hypn*, 32:118-169, 1984.
38. Kaplan HI, Sadock BJ: *Modern Synopsis of the Comprehensive Textbook of Psychiatry* (3rd ed). Williams and Wilkins, Baltimore, 1981, p. 468.
39. Greaves GB: Multiple personality: 165 years after Mary Reynolds. *J Nerv Ment Dis*, 168:577-596, 1980.
40. Kluft RP: The treatment of multiple personality disorder (MPD): current concepts. *Directions in Psychiatry* (New York), 5(24):1-10, 1985.
41. Kohlenberg RJ: Behavioristic approach to multiple personality: a case study. *Behav Ther*, 4:137-140, 1973.
42. Prince J, Hess NC: Behavior therapy as precipitant and treatment in a case of dual personality. *Aust NZ J Psychiatry*, 13:63-66, 1979.



# Ketoacidosis in the Diabetic Child: A Metabolic Emergency



**Patients Should No  
Longer Die of  
Ketoacidosis, Once a  
Killer of Children  
with Diabetes . . .**

The author, a private practice pediatrician, is on the staffs of Methodist Hospital of Indiana, Indianapolis, and Hendricks County Hospital, Danville, Ind.

Correspondence: Samuel M. Wentworth, M.D., 1000 East Main St., Danville, Ind. 46122.

---

SAMUEL M. WENTWORTH, M.D.  
Danville

---

**T**HE ETIOLOGY AND treatment of ketoacidosis in the child is undergoing change. As a preface to this article, it should be mentioned that there are varied methods of management which may differ from those outlined herein. The methods mentioned are those which the author has found to work in his patients; other protocols may be used with equal effectiveness.

Prior to the commercial availability of insulin, ketoacidosis in the child with diabetes was a devastating diagnosis. Approximately 65% of individuals admitted with this diagnosis did not survive. Even 20 years after the discovery of insulin, a mortality of 45% was reported.<sup>1</sup> The major etiology of ketoacidosis in the early 1940s was infection.<sup>2</sup> In the 1940s antibiotics first became available for general use. This allowed a decrease in the incidence of ketoacidosis in all age groups. Although antibiotics probably affected the older diabetic more than the younger patient, by the 1950s there was a decrease in the incidence of ketoacidosis in the young to 13.4 episodes per 1,000 patient-years. Into the early 1970s, the mortality rate from diabetic ketoacidosis was as high as 6-10%, and in children under 10 years of age, diabetic ketoacidosis accounted for 70% of diabetes-related deaths.<sup>3</sup> From 1950 to 1980 we have seen a decline in the incidence of and death rate from ketoacidosis to the point that it is now said that patients should not die from ketoacidosis.<sup>4</sup>

In the late 1960s as many as 50% of newly diagnosed diabetics presented in frank ketoacidosis. Presently, it is unusual for a child to present in this condition as the signs and symptoms of diabetes are recognized earlier. Antibiotic therapy has continued to decrease the number of ketoacidosis admissions precipitated by infection. The etiology of ketoacidosis for the 1980s has become non-compliance. This usually involves withdrawal of insulin therapy in the known diabetic by the patient or caretaker. This affects the therapy of ketoacidosis since patients may arrive with partially treated ketoacidosis and a confusing clinical picture and laboratory data.

## Pathophysiology

To understand the metabolic derangement created by an absolute or relative lack of insulin, it is important to understand the normal, profoundly anabolic effect of insulin. Insulin effect varies with the tissue involved. In muscle, the primary effects are to promote intracellular transport of glucose, potassium, amino acids, phosphorus and ketones. In addition, there is stimulation of glycolysis, glycogenesis and protein synthesis. In adipose tissue, the primary effect is stimulation of glucose uptake and utilization via the glycolytic and hexose phosphate shunt pathways. The role of insulin in the liver is interesting in that it does not seem to have any influence on the direct influx of glucose into the cell. However, it does stimulate glycolytic enzymes and suppress gluconeogenic enzymes. This helps to insure that glucose is not released into the liver in the presence of elevated blood sugars.<sup>4</sup>

The biochemical picture created by lack of insulin (absolute or relative)

results not only from the reversal of the effects previously mentioned, but also from the effects of excess counter-regulatory hormones such as glucagon, catecholamines, growth hormone and cortisol. These hormones complicate the physiological response by their own gluconeogenic effects. Cortisol's effect is via protein breakdown, gluconeogenesis and lipolysis. Catecholamines stimulate glucagon and growth hormone secretion and, like cortisol, stimulate ketogenesis. Growth hormone depresses the peripheral utilization of glucose and ketones. Glucagon is a potent stimulator of hepatic glycogenolysis and gluconeogenesis. The combined effect of the cellular lack of insulin and the stimulation of counter-regulatory hormone secretion is hyperglycemia and ketosis. Overproduction of B-hydroxybutyric and acetoacetic acid results in acidosis. With the increase in hepatic ketone production and decrease in peripheral utilization, the body's buffer system is rapidly depleted and respiratory compensation is unable to keep pace with acid production. The net effect is a rapid fall in pH.<sup>5</sup>

Ketosis and resultant ketoacidosis may cause gastrointestinal paralysis (metabolic ileus). Hyperglycemia results in a hypertonic state and osmotic diuresis, and when vomiting secondary to ileus ensues, dehydration progresses even more rapidly. With dehydration comes increased insulin resistance and further catabolism. An increase of 10% in serum osmolarity causes a significant decrease in insulin-mediated glucose metabolism.<sup>6</sup> Once extracellular volume decreases to the point that urinary flow is decreased, the blood sugar becomes even more markedly elevated. Secondary to the hyperglycemia, ketonemia, and dehydration and vomiting, several chemical abnormalities are found. The presence of hyperglycemia draws water into the extracellular space resulting in a depressed measured serum sodium. A low serum sodium is also due to the hypertriglyceridemia

caused by the overall catabolic state. There is additional sodium loss due to vomiting. Sodium losses approximate 6 mEq/kg. Although individual patients may have low, normal, or elevated serum potassium levels, there is usually an overall deficit of 3 to 5 mEq/kg. In addition, there is usually a phosphate deficit of 2.5 mEq/kg, chloride loss of 5 mEq/kg, and magnesium loss of 0.5 mEq/kg.<sup>4,7</sup>

#### Treatment

The major objective in the treatment of the child with diabetes presenting in ketoacidosis is restoration of the nor-

---

## Today, Ketoacidosis Is Most Often Caused by Failure to Comply with Insulin Therapy . . .

---

mal anabolic state. The primary treatment to restore the anabolic state requires the judicious use of insulin. Correction of dehydration and resultant insulin resistance will hasten repair. The following approach is suggested for evaluation and treatment.

On admission, rapid evaluation of the ketoacidotic and/or comatose patient is routine. Do not be hampered by the knowledge that the child has diabetes. He or she might be presenting in a coma of a different cause. If diabetes-related, the use of visually or meter read strips will determine if the comatose state is due to hyper- or hypoglycemia. It should no longer be necessary to "assume low until proven otherwise." Physical exam should include evaluation of percent dehydration (by weight change if known), baseline retinal evaluation, evaluation of plane of neurological status, presence or absence of Kussmaul respirations, and evaluation of general

circulatory and airway status. Beware of the ketoacidotic patient who is not exhibiting Kussmaul respirations for he not only will have a lower pH but a pH that may be falling rapidly.

Laboratory evaluation on admission includes blood sugar, creatinine, BUN, CBC, electrolytes, and arterial blood gas. Some physicians also obtain calcium, magnesium, phosphorus and serum osmolarity. If you can get blood gases, serum ketones are not needed. Be prepared for the following falsely elevated values: white blood cell count due to counterregulatory hormones, and creatinine if done on the auto-analyzer, the latter due to "creatinine likeness" of ketones.<sup>8</sup> As noted, serum sodium may be falsely low due to "dilution" by hyperosmolarity and hyperlipidemia.

As with all seriously ill patients, establishment of a good intravenous line is essential. It was once said that if you start with the first fluid on the shelf and run it at an appropriate rate while you are arguing about what fluid should be used, the patient will be getting better. Rapid replacement of fluids in the first few hours of treatment dilutes circulating glucose and decreases serum osmolarity. This allows greater insulin sensitivity, promotes excretion of glucose via the kidneys, and decreases the stimulation of counterregulatory hormones. Although there are arguments for or against all fluids, the author usually starts with half-normal saline. The rate of flow is determined by an evaluation of the patient's hydration status. If it is difficult to tell, assume 15% dehydration (150 ml/kg fluid deficit) and calculate fluids based on isotonic dehydration.

The addition of electrolytes will be determined by the clinical and laboratory condition of the patient. If the potassium is low and/or urinary output is established, addition of potassium to the fluids is appropriate. Due to the known loss of phosphate and the risk of hyperchloremia, a mixture of potassium chloride and potassium



phosphate is used to replace potassium. The original intent for the use of phosphorus was to enhance the recovery of 2,3-DPG in the erythrocyte and thereby improve oxygen-carrying capacity of the hemoglobin molecule.<sup>7</sup> This use of a moderate amount of phosphate does not cause calcium abnormalities as might occur if phosphate is the only source of potassium.<sup>9</sup> The use of phosphate does not necessarily prevent late hypophosphatemia.<sup>10</sup>

## The Diabetic Child in Ketoacidosis Is in a Profound Catabolic State . . .

A discussion of intravenous fluid therapy would not be complete without mention of the use of bicarbonate. Great care must be taken in the use of bicarbonate as it may be associated with the development of cerebral edema and other potential complications.<sup>11</sup> It is suggested that bicarbonate be reserved for those children who have a pH of less than 7.0 or have cardiovascular symptoms related to the acidosis. When using bicarbonate, calculate replacement to a pH of 7.1 rather than to physiological pH.

In the child with ketoacidosis, the most effective means of insulin delivery is constant infusion. The advantages of this method are ease of titration in that blood sugar decline is linear, known delivery, and short half-life. Subcutaneously administered insulin may remain at the injection site until hydration occurs, with the potential for previously administered doses to affect blood sugar simultaneously. This may cause late hypoglycemia and significantly delay recovery. Constant insulin infusion loading dosage is 0.2 units of regular insulin/kg followed by an infu-

sion of 0.05 units/kg/hour. Infusion dosage will vary depending on the known sensitivity of the patient and blood sugar response. The insulin drip should be made in small volumes, mixed in normal saline (typical concentration 1 unit of insulin/10 ml), and infused via pump for close control of infusion rate. Since insulin is known to adhere to plastic, a short delivery system (either infused through a separate intravenous line or "piggy backed" close to the infusion site) is suggested.

Laboratory monitoring of the patient's progress subsequent to beginning the insulin infusion includes blood sugar at one and two hours; blood sugar, electrolytes, blood gas at three and six hours; blood sugar at nine hours; and blood sugar and electrolytes at 12 hours. Adjustments in insulin infusion rate and electrolyte concentration of intravenous fluids (especially potassium) will most likely be required. Five per cent glucose may be added when blood sugar approaches 300 mg/dl, and the infusion discontinued when the blood sugar is 150-175 mg/dl. Subcutaneous insulin (0.25 U/kg) is administered at this time to prevent rebound hyperglycemia.

Space does not allow a complete discussion of diabetic ketoacidosis complications. These include most importantly the development of cerebral edema (often unpredictable), hypo- and hyperkalemia, hypocalcemia and hypoglycemia.<sup>11-15</sup> Careful fluid, electrolyte and insulin administration to gradually correct blood sugar and serum osmolality, along with close laboratory and clinical monitoring, should minimize these complications.

Above all, the physician taking care of the diabetic child in ketoacidosis must realize that the child is in a profound catabolic state. This condition did not appear overnight so the goal of reaching normoglycemia over a few hours may not be in the best interest of the child. Patient resolution of the child's metabolic derangement must be planned allowing slow correction of all

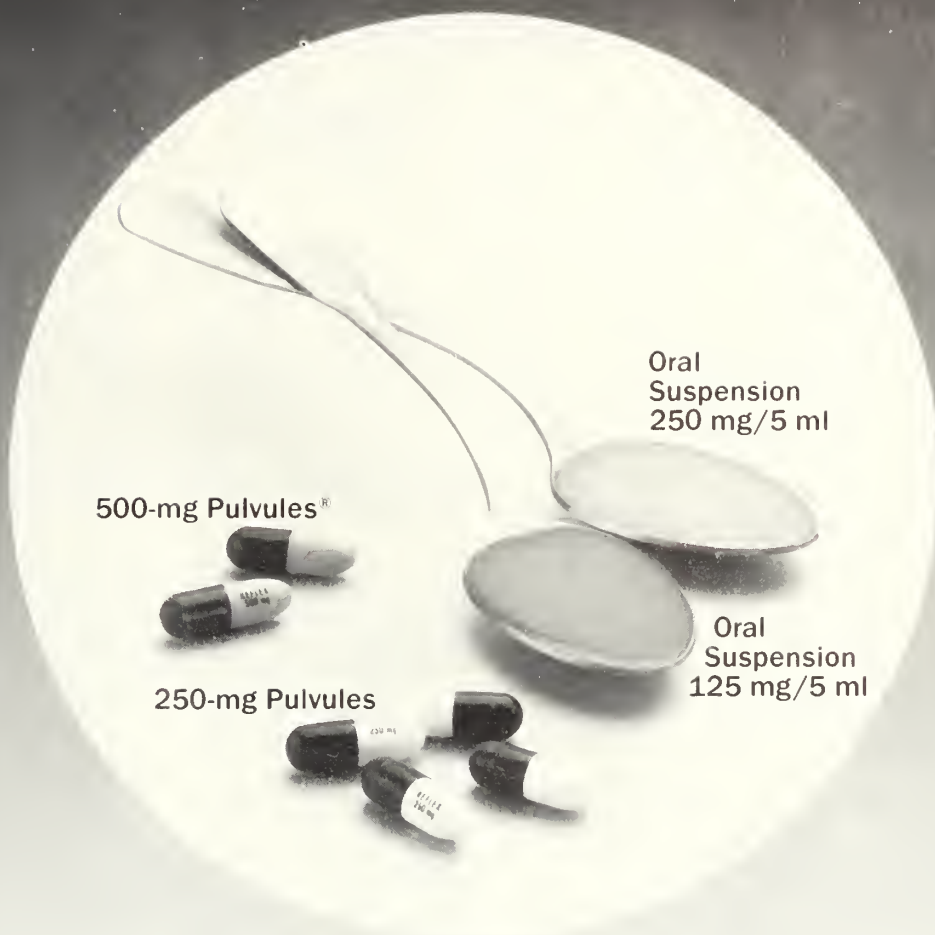
potential osmotic factors if major complications are to be avoided.

## REFERENCES

1. Skillman TG, Wilson R, Knowles HC: Mortality of patients with diabetic acidosis in a large city hospital. *Diabetes*, 7:109-113, 1958.
2. Collen MF: Mortality in diabetic coma. *Arch Int Med*, 70:347-368, 1942.
3. Foster DW, McGarry JD: The metabolic derangements and treatment of ketoacidosis. *NEJM*, 309:159-170, 1983.
4. Vignati L, Aswal AC, Black WL, et al: *Diabetes Mellitus*. Philadelphia, Lea and Febiger, 1985, p. 526-553.
5. Kreisberg RA: Diabetic ketoacidosis: New concepts and trends in pathogenesis and treatment. *Ann Int Med*, 88:681-695, 1978.
6. Bratusch-Marrain PR, De Fronzo RA: Impairment of insulin-mediated glucose metabolism by hyperosmolality in man. *Diabetes*, 32:1028-1034, 1983.
7. Becker DJ, Brown DR, Steranka BH, et al: Phosphate replacement during treatment of diabetic ketosis. *Am J Dis Child*, 137:241-246, 1983.
8. Assadi FK, John EG, Fornell L, et al: Falsely elevated serum creatinine concentration in ketoacidosis. *J Pediatr*, 107:562-564, 1985.
9. Zipf WB, Bacon GE, Spencer ML, et al: Hypocalcemia, hypomagnesemia, and transient hypoparathyroidism during therapy with potassium phosphate in diabetic ketoacidosis. *Diabetes Care*, 2:265-268, 1979.
10. Barrett EJ, De Fronzo RA, Bevilacqua S, et al: Insulin resistance in diabetic ketoacidosis. *Diabetes*, 31:923-929, 1982.
11. Sperling MA: Diabetic ketoacidosis. *Pediatr Clin North Am*, 31:591-610, 1984.
12. Krane EJ, Rockoff MA, Wallman JK, et al: Subclinical brain swelling in children during treatment of diabetic ketoacidosis. *NEJM*, 312:1147-1151, 1985.
13. Oksman JL, Marliss EB, Aoki TT, et al: The cerebrospinal fluid in diabetic ketoacidosis. *NEJM*, 284:283-290, 1971.
14. Clements RS, Vourganti B: Fatal diabetic ketoacidosis: Major causes and approaches to their prevention. *Diabetes Care*, 1:314-325, 1978.
15. Toomey FB, Chinnock RF: Subcutaneous emphysema, pneumomediastinum, and pneumothorax in diabetic ketoacidosis. *Radiology*, 116:543-544, 1975.



# Easy To Take



**Keflex<sup>®</sup>**  
**cephalexin**

Additional information  
available to the profession  
on request.



420113

Dista Products Company  
Division of Eli Lilly and Company  
Indianapolis, Indiana 46285  
Mfd. by Eli Lilly Industries, Inc.  
Carolina, Puerto Rico 00630

# Evaluation of Patients with Intractable Seizures for Epilepsy Surgery at Indiana University Medical Center

---

B. I. LEE, M.D.<sup>1</sup>  
O. N. MARKAND, M.D.<sup>1</sup>  
W. A. STEWART, M.D.<sup>1</sup>  
R. M. WORTH, M.D.<sup>2</sup>  
M. K. EDWARDS, M.D.<sup>1</sup>  
S. A. SIDDIQUI, M.D.<sup>1</sup>  
Indianapolis

---

## The Anterior Temporal Lobectomy Is the Most Common Surgical Technique Used to Eliminate or Reduce the Number of Recurrent Epileptic Seizures . . .

From the Dept. of Neurology,<sup>1</sup> Dept. of Neurosurgery,<sup>2</sup> Dept. of Neuroradiology,<sup>3</sup> and Dept. of Nuclear Medicine,<sup>4</sup> Indiana University Medical Center, Indianapolis.

Correspondence: B. I. Lee, M.D., Dept. of Neurology, Riley—A599N, 702 Barnhill Drive, Indianapolis, Ind. 46223.

Acknowledgments: The authors thank Martha Stanley and Phyllis Cowherd for secretarial help with preparation of the manuscript.

SINCE HORSLEY<sup>11</sup> described the resection of a cerebrocortical scar in a patient with partial seizures in 1886, surgery for the relief of seizures has become a well-known technique. A variety of surgical procedures have been introduced which have met with varying degrees of enthusiasm. The available surgical techniques at present include anterior temporal lobectomy, corticectomy for extratemporal lesion, hemicorticectomy, commissurotomy, stereotaxic ablations and chronic cerebellar stimulation.<sup>1,20,21,29</sup>

The theoretical approaches to surgical treatment for seizure relief<sup>22</sup> are: 1) removal of the epileptogenic zone and the cerebral lesion responsible for it, 2) interruption of the pathways of propagation of the epileptic discharges from their site of origin to other brain regions, 3) decrease of brain excitability by stimulating structures which exert a restraining influence on brain epileptogenicity. At present, the approach to remove the epileptogenic focus by a localized resection, i.e., anterior temporal lobectomy and corticectomy (with an extratemporal focus), is by far the most commonly performed and generally most successful surgical treatment available for epilepsy.<sup>3,7,21</sup> The result with anterior temporal lobectomy, the most commonly performed procedure (greater than 50% of cases), is the best, as approximately 70% of patients achieve complete seizure control or marked reduction of recurrent seizures.<sup>21</sup>

Despite its well proven clinical benefit, surgery for relief of seizures

is a greatly under-utilized procedure in the United States. The conservative estimation of number of epileptic patients who can be helped by surgery is between 25,000 and 100,000 patients in the United States, but only approximately 200 procedures are performed each year.<sup>3,7,28</sup> Therefore, there is a tremendous need for additional epilepsy surgery programs. The evaluation procedures may be expensive and time consuming but, when compared to the social and financial benefit to the patient and society once successful surgery results in improved psychosocial adjustment, the cost and effort of establishing new centers is easily justified.

### Selection of Surgical Candidates

The selection process of potential surgical candidates generally involves two steps:<sup>27</sup> the preselection by the referring neurologist or neurosurgeon, and the actual selection at the specialized epilepsy unit.

#### A. Preselection by the Referring Physician

i) The seizures must be medically intractable: Previous pharmacological management must have been adequate in view of the latest standards over a period of several years before medical treatment can be considered a failure. After being maintained on optimum anticonvulsant medication that does not produce unacceptable side effects, the residual seizures must be sufficiently significant to seriously disrupt normal life. The frequency of recurrent seizures, the type and severity of seizures, and the nature of the patient's

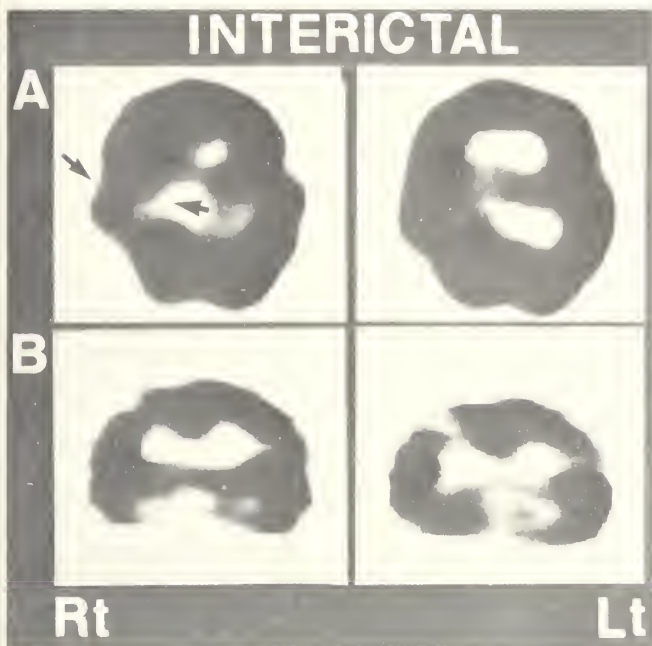


FIGURE 1

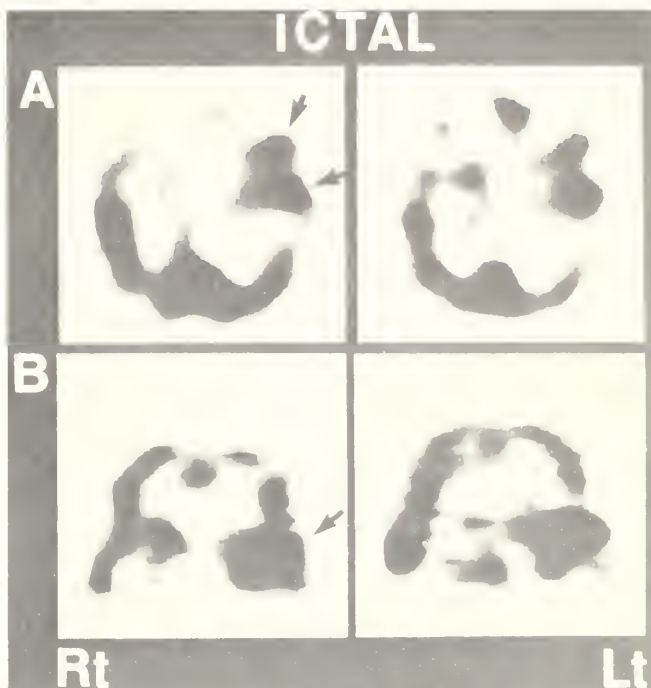


FIGURE 2

FIGURE 1: Interictal H23-HIPDM-SPECT cerebral imaging in a patient with complex partial seizures. Arrows indicate the decreased regional cerebral perfusion in the right temporal lobe which is the epileptogenic focus in this patient. A: Transaxial section. B: Coronal section. R = Right, L = Left.

FIGURE 2: Ictal H23-HIPDM-SPECT cerebral imaging in patient with complex partial seizures. Arrows indicate the increased regional cerebral perfusion in the left anterior temporal and adjacent orbito-frontal cortex which were the epileptogenic foci in this patient.

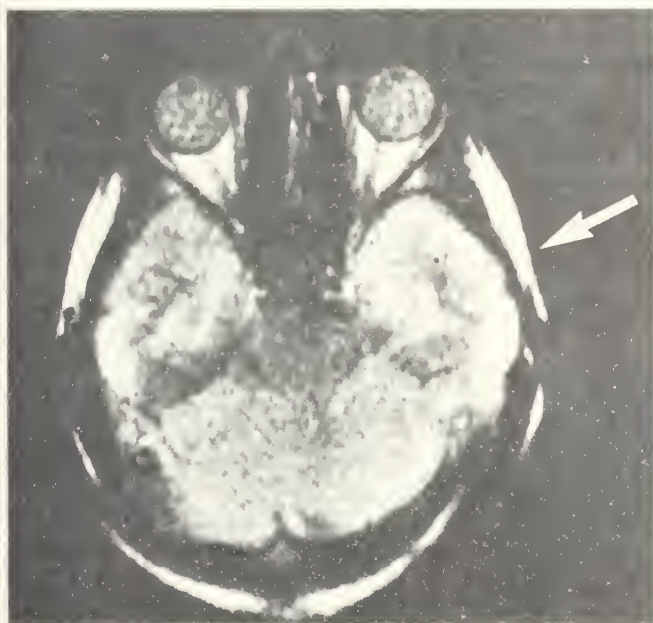


FIGURE 3

FIGURE 3: MR cerebral imaging in a patient with complex partial seizures. MR cerebral imaging shows increased signal intensity on the "long" spin echo MRI sequence (arrow) in the left temporal region which was the epileptogenic focus in this patient. Pathological examination of the removed temporal lobe revealed gliosis.

work are other important determinant factors.

ii) The seizure disorder must be partial: The determination of seizure types is crucial for appropriate medical treatment as well as the selection process

of possible surgical candidates. In most patients, this is easily determined from detailed clinical description of the habitual seizures given by a reliable observer as well as subjective experiences noted by the patient. In ad-

dition, scalp EEG findings should support the clinical impression of partial seizures before the consideration of surgical evaluation. If EEG features do not suggest clear focal abnormalities, prolonged EEG recording is indicated



to determine the exact type of seizures.

iii) The patient should not have a space-occupying lesion. When a mass lesion (tumor, abscess, arteriovenous malformation) is encountered, the surgical treatment is determined by the nature of this lesion and not by the epilepsy. However, if the structural lesion is not considered as an indication for surgery, the patient could still be considered for standard epilepsy surgery to relieve intractable seizures.

iv) The patient should not have significant mental retardation or frank psychosis. Lower intellectual scores have been correlated with poor seizure control following surgery.<sup>7</sup> This may suggest diffuse cerebral damage and multifocal seizures. We disqualify a patient from consideration for surgery if an I.Q. is below 70, unless there are other factors justifying surgery. Severe psychosis in patients with complex partial seizures does not improve following surgery and continues to incapacitate the patient despite successful control of seizures.<sup>25</sup> On the other hand, behavioral or personality disturbances may improve if surgery abolishes the epileptic seizures.<sup>12</sup>

#### *B. Selection at the Epilepsy Unit*

After the patient with intractable seizures fulfills the above preselection criteria, the patient undergoes further evaluation at an epilepsy unit. The primary objective of presurgical evaluation is to localize the lesion most responsible for generating the patient's habitual seizures. It must also be demonstrated that this focus is in a cerebral area that can be removed without producing unacceptable neurological deficits.

There is, as yet, no universally accepted standard battery of presurgical tests, and considerable variability remains in the evaluating procedures from center to center.<sup>3,7</sup> Over the past two decades, several epilepsy centers have developed extensive and sophisticated presurgical evaluation protocol involving EEG telemetry,<sup>3,7</sup> combined EEG and video

monitoring,<sup>3</sup> stereo EEG,<sup>24</sup> and subdural<sup>18</sup> or epidural electrode arrays.<sup>9</sup> Among these, stereo EEG and subdural or epidural electrode arrays belong to invasive techniques and there are still serious controversies existing between centers about their clinical utility.

In addition to the EEG techniques mentioned above, the recent development of advanced technology radiological studies has opened new dimensions into the field of epilepsy surgery. The clinical value of local cerebral metabolic rate (LCMR) measurement in patients with partial seizures by positron emission computed tomography (PET) has been clearly demonstrated, mainly by investigators at UCLA.<sup>4,5,19</sup> However, a serious limitation of PET in evaluating epileptic patients is that its use is, practically speaking, limited to imaging during the interictal state.<sup>19</sup> Although the findings of PET during ictal stages have been reported,<sup>8</sup> the current technology requires a metabolic steady state of at least 20-40 minutes which is a prohibitive time constraint considering that the duration of a typical complex partial seizure is only one or two minutes. A simple demonstration of a hypometabolic zone in interictal 18-fluorodeoxyglucose PET study does not prove that the lesion is epileptogenic in nature unless ictal study shows increased LCMR in the same anatomical location because any non-epileptic structural lesion or transient functional alterations may cause a depression of LCMR. Therefore, extensive EEG studies including invasive procedures are still necessary to prove that the hypometabolic zone seen in FDG-PET is really an epileptogenic focus.<sup>4</sup> Moreover, the high cost of equipment and availability of operating cyclotrons are additional factors which limit the widespread clinical applicability of PET.

Compared to FDG-PET techniques, regional cerebral blood flow (rCBF) measurement by using recently developed single photon emitting radio-

pharmaceuticals, i.e., n-isopropyl-p-iodoamphetamine (IMP)<sup>13</sup> and N, N, N'-trimethyl-N'-(2-hydroxy-3-methyl-5-123I-iodobenzyl)-1,3-propanediamine 2HCL (HIPDM),<sup>14</sup> has greater practical advantages in the evaluation of epileptic patients. These radioactive iodinated amines are highly lipophilic and freely pass the blood brain barrier to accumulate in neurons.<sup>10,13,14</sup> The characteristics of rapid cerebral uptake proportionate to the rCBF and stable accumulation afford great potential advantage to carry out an ictal study because the tracer can be injected easily during a seizure observed under EEG monitoring and the patient then taken to the nuclear medicine suite within 30 minutes for scanning. In our experiences, single photon emitting computed tomography (SPECT) brain imaging by using HIPDM was very helpful to localize the epileptogenic focus for surgical resection.<sup>15</sup> *Figure 1 and 2* illustrate the results of interictal and ictal HIPDM-SPECT studies in patients with intractable complex partial seizures.

**The Section of Epilepsy of the Department of Neurology at the Indiana University Medical Center has adopted the following procedures as a standard protocol for presurgical evaluation of epileptic patients (Table 1):**

1. *Prolonged scalp EEG monitoring with sphenoidal electrodes and videotape recording.* At the epilepsy unit, patients' spontaneous habitual seizures are recorded on closed circuit TV-videotape and EEG. Both split-screen analysis and a digital clock superimposed on video images and transcribed in code on the EEG are used for ascertaining time relations between the clinical attack and electrographic patterns. The whole EEG tracings are also reviewed to determine the lateralization of interictal epileptiform activities. The total number of habitual seizures recorded can vary depending on the individual patient. Recording of a minimum of three habitual seizures is required when the interictal epilep-

tiform activities are almost completely lateralized (more than 90%) to the hemisphere from which the ictal discharges also arise. If the lateralization of the interictal epileptiform activities is less than 90%, a minimum of ten habitual seizures is required for adequate analysis.

2. *Neuropsychometric evaluation.* Once an analysis of interictal epileptiform discharges or seizures recorded on EEG and videotape has revealed a focal epileptogenic process, a battery of tests for cognitive functions is used to seek further evidence of dysfunction in the dominant or nondominant temporal or frontal lobe. Verbal intelligence quotient (VIQ) and performance intelligence quotient (PIQ) as derived from the Wechsler Adult Intelligence Scale are routinely measured.

3. *WADA test.* Intracarotid injection of sodium amytal by a standard carotid angiogram procedure is performed to determine the lateralization of verbal and memory function. If results indicate that the suspected epileptogenic focus cannot be removed without risk of global memory loss, there is no justification in continuing with further surgical evaluation. The entire WADA procedure is recorded on the videotape for further analysis. Standard bilateral carotid angiography is also performed to determine the adequacy of the WADA test as well as to detect vascular lesions.

4. *Thiopental activation.* This test is primarily performed to identify areas of focal dysfunction according to the technique described by Erba-Lombroso.<sup>17</sup> It has been demonstrated that attenuation of barbiturate induced EEG fast activity at one sphenoidal electrode correlates well with presence of a structural lesion on the mesial surface of the temporal lobe.<sup>6</sup>

5. *Visual field test.* Standard visual field testing is performed at the neuroophthalmology laboratory.

6. *I-123 HIPDM brain scintigraphy.* Every surgical candidate will have I-123 HIPDM scan during interic-

TABLE 1  
Standard Battery of Tests for Presurgical Evaluation of Patients with Intractable Complex Partial Seizures at Indiana University Medical Center

1. Prolonged combined EEG with sphenoidal electrodes and videotape recording.
  2. Thiopental activation test.
  3. Sodium amytal (Wada) test.
  4. Neuropsychometric test.
  5. Visual field test.
  6. MR cerebral imaging.
  7. I123-HIPDM-SPECT cerebral imaging.
  - \*8. Electrocorticogram and electrical cortical stimulation.
- \*Will be performed intraoperatively in patients receiving surgery.

TABLE 2  
Crandall's Therapeutic Surgical Group Classification<sup>2</sup>

- Ia = No seizures
- Ib = Auras, but no complex partial seizures
- Ic = A few seizures post-operatively, but not for 2 years or more
- II = rare seizures 1 per year or long period seizure free, or only nocturnal seizures
- III = Worthwhile improvement, less than 1 per month or greater than 50% reduction of pre-operative seizure frequency
- IV = No worthwhile improvement
- V = Disimprovement

tal stage to detect any focal lesion of decreased cerebral blood flow. In addition, every effort will be given to obtaining an ictal brain scan for comparison with the interictal scan and EEG features.

7. *Nuclear magnetic resonance brain imaging.* The experiences with NMR brain imaging in epileptic patients are at present limited. However, there have been some cases described in which the NMR scan detected an abnormal lesion that correlated with the EEG features.<sup>16,26</sup> One patient studied at our institution has demonstrated increased signal intensity on the "long" spin echo MRI sequence, which was later confirmed to be a severe mesial temporal sclerosis (*Fig. 3*).

The selection of patients for surgery by using this protocol is ideally based on the total agreement of all the tests indicating one localized area as the generator of the patient's habitual seizures. If the tests lack complete concord-

ance then the scalp EEG/sphenoidal electrode recording of habitual seizures should unequivocally demonstrate a consistent and clearly localized area of ictal onset which is located on dispensable cortex before surgery can be recommended to the patient. No other test results should contradict the EEG findings.

### Surgery

Surgical procedures in individual patients will be variable depending upon the location of the epileptogenic focus although most patients will receive standard subpial resection of the anterior temporal lobe with or without adjacent corticectomy. Most patients will be operated under local anesthesia and intraoperative electrocorticogram will be performed routinely to determine the location and extent of the resection. If the epileptic focus is located in the dominant temporal lobe, intraoperative electrical stimulation is



also performed to identify the speech areas which will be avoided during resection.

#### Postoperative Patient Follow-up

A postoperative patient will receive a one-hour scalp EEG at the day of discharge from the hospital to assess for interictal epileptiform activities. At the first follow-up visit of one month after discharge, the patient will be examined by the epilepsy unit staff and serum levels of anticonvulsants will be obtained. The second follow-up visit will be made six months after surgery, at which time a visual field test, CT scan of the head and a neuropsychometric test will be repeated for comparison with the preoperative results at this time. Thereafter, patients will be followed at one-year intervals unless they have recurrent seizures. After adequate follow-up periods, the results of surgery are classified according to Crandall's surgical therapeutic group classification (Table 2).<sup>2</sup> Every patient will receive anticonvulsant therapy for at least two years. When patients have been seizure-free for at least two years, and at least two consecutive EEGs after surgery have shown no interictal epileptiform activities, then the anticonvulsants will be tapered off gradually over six months. When patients are seizure-free but EEGs after surgery show interictal epileptiform activity, withdrawal of anticonvulsant therapy will be delayed until patients are seizure-free for five years after surgery.

#### REFERENCES

- Cooper IS: Effect of chronic stimulation of anterior cerebellum on neurological disease. *Lancet*, 1:206, 1973.
- Crandall P: Post operative management and criteria for evaluation. In: Purpura DP, Penry JK, Walter RD, eds. *Advances in Neurology* V. 18. New York: Raven Press, 1975:265-79.
- Delgado-Escueta AV, Walsh GO: The selection process for surgery of intractable complex partial seizures: surface EEG and Depth electrography. In Ward AA, Penry JK, and Purpura D (Eds), *Epilepsy*. New York, Raven Press, 1983:295-326.
- Engel J Jr, Kuhl DE, Phelps ME, Crandall PH: Comparative localization of epileptic foci in partial epilepsy by PCT and EEG. *Ann Neurol*, 12:529-537, 1982.
- Engel J Jr, Brown WJ, Kuhl DE, Phelps ME, Mazziotta JC, Crandall PH: Pathological findings underlying focal temporal lobe hypometabolism in partial epilepsy. *Ann Neurol*, 12:518-528, 1982.
- Engel J Jr, Driver MV, Falconer MA: Electrophysiological correlates of pathology and surgical results in temporal lobe epilepsy. *Brain*, 98:129-56, 1975.
- Engel J Jr: The evaluation of patients with intractable seizures for considerations of surgical therapy in annual course of clinical epilepsy (#201). *AAN meeting at Boston*, 1984.
- Engel J Jr, Kuhl DE, Phelps ME, Rausch R, Newer M: Local cerebral metabolism during partial seizures. *Neurology*, 33:400-413, 1983.
- Goldring S: A method for surgical management of focal epilepsy, especially as it relates to children. *J Neurosurg*, 49:344-356, 1978.
- Holman BL, Lee RGL, Hill TC: A comparison of two cerebral blood flow tracers, N-isopropyl I-123 p-iodoamphetamine and I-123 HIPDM. *J Nucl Med*, 25:25-30, 1984.
- Horsley V: Brain surgery. *Br Med J*, 2:670-675, 1886.
- Jensen I, Larsen JK: Mental aspects of temporal lobe epilepsy: Follow-up of 74 patients after resection of a temporal lobe. *J Neurol Neurosurg and Psych*, 42:256-65, 1979.
- Kuhl DE, Huang SC, Selin C, Ackermann RF, Lear JL, Wu JL, Lin TH, Phelps ME: Quantifying local cerebral blood flow by N-isopropyl-p-(123I) iodoamphetamine (IMP) tomography. *J Nucl Med*, 23:196-203, 1982.
- Kung HF, Trampsch KM, Blau M: A new brain perfusion imaging agent: (I 123) HIPDM: N, N, N'-trimethyl-N'-(2-hydroxy-3-methyl-5-iodobenzyl)-1,3-propanediamine. *J Nucl Med*, 24:66-72, 1983.
- Lee BI, Markand ON, Siddiqui AR, Park HM, Mock B, Wellman HH, Worth RM, Edward MK: SPECT brain imaging using N, N, N'-Trimethyl-N'-(2-hydroxy-3-methyl-5-123I-iodobenzyl)-1,3-propanediamine 2HC1 (HIPDM) in intractable complex partial seizures. *Submitted to Neurology*. Part of the manuscript was presented in the Central EEG Society Meeting in March 1985, Minneapolis, MN.
- Lesser RP, Modic MW, Weinstein, Duchesneau PM, Luders H, Dinner DS, Morris HH, Estes M, Chou SS: 1.5 Tesla Magnetic Resonance studies in patients with intractable focal seizures (abstract). *Neurol*, 35(Suppl II):132, 1985.
- Lombroso CT, Erba G: Primary and secondary bilateral synchrony in epilepsy. *Arch Neurol*, 22:321-333, 1970.
- Lueders H, Hahn J, Lesser R, Dinner DS, Rothner D, Erenberg G: Localization of epileptogenic spike foci: comparative study of closely spaced scalp electrodes, nasopharyngeal, sphenoidal, subdural and depth electrodes. In Akimoto H, Kazamatsuri H, Seino M, Ward A (eds): *Advances in Epileptology: XII Epilepsy International Symposium*, September 1981. New York, Raven Press, 1982:185-189.
- Mazziotta JC, Engel J Jr: The use and impact of position computed tomography scanning in epilepsy. *Epilepsia*, 25 (suppl.2) S86-S104, 1984.
- Penfield W, Baldwin M: Temporal lobe seizures and the technique of subtotal temporal lobectomy. *Ann Surg*, 136:625-634, 1985.
- Rasmussen T: Cortical resection in the treatment of focal epilepsy. In Purpura DP, Penry JK, Walter RD, (editors). *Advances in Neurology*, Vol 8, Neurosurgical management of the epilepsies. New York, Raven Press, 1975:139-154.
- Rossi GF: Why, when and how surgery of epilepsy? *Acta Neurochir Suppl*, 30:7-11, 1980.
- Spencer SS: Depth electroencephalography in selection of refractory epilepsy for surgery. *Ann Neurol*, 9:207-214, 1981.
- Talairach J, Bancaud J: Stereotaxic exploration and therapy in epilepsy. In: *Handbook of Clinical Neurology*. Vol 15. The Epilepsies, Vinken PJ and Bruyn CW (eds). Amsterdam: North-Holland, 1974:758-782.
- Taylor DC: Mental state and temporal lobe epilepsy: A correlative account of 100 patients treated surgically. *Epilepsia*, 13:727-65, 1972.
- Theodore WH, Dorwart R, Holmes M, Porter RJ, Dichiro G: Neuro-imaging in epilepsy: Comparison of PET, CT and MRI (abstract). *Neurology*, 35(Suppl):135, 1985.
- Walker AE: Surgery for epilepsy. In: *Handbook of Clinical Neurology*. Vol 15. The Epilepsies. Magnus O and Lorentz de Hass Am (eds). Amsterdam: North-Holland, 1974:739-58.
- Ward AA: Perspective for surgical therapy of epilepsy. In *Epilepsy*. Ward AA, Penry JK and Purpura D (eds). New York: Raven Press, 1983:371-390.
- Wilson DH, Reeves A, Gazzaniga M: Division of the corpus callosum for uncontrollable epilepsy. *Neurology*, 28:649-653, 1978.



# Motrin<sup>®</sup> 800 TABLETS mg

ibuprofen



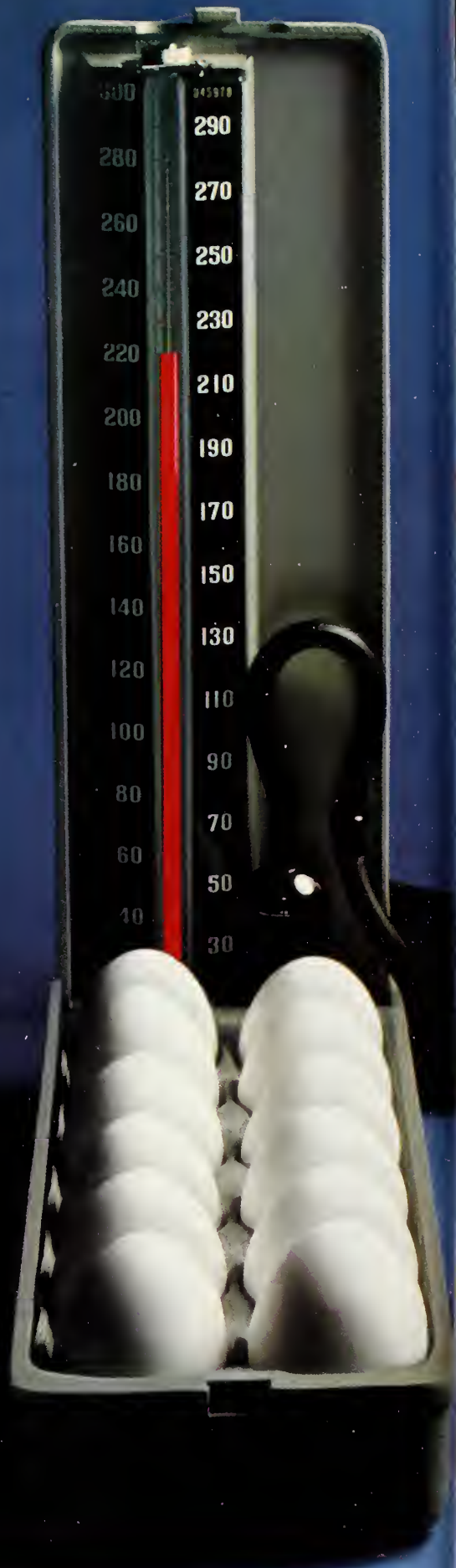
**Extra strength**  
**Convenience**  
**Economy**

**Upjohn**



A Century  
of Caring  
1886-1986

**“High  
blood pressure  
should be a  
red flag to  
screen for  
cholesterol...”<sup>1</sup>**





**If your patients have hypertension, they probably have high cholesterol too.**

The Framingham Heart Study<sup>2</sup> showed that over two thirds of the 35 and older population in that study with systolic blood pressures over 145 mmHg also had serum cholesterol levels of 225 mg/dL or more, and 46% had levels above 250 mg/dL.

While many clinical laboratories still report 250 mg/dL as "normal" cholesterol, the NIH Consensus Development Conference Statement on Cholesterol and Heart Disease<sup>3</sup> stated that any level above 220 mg/dL is associated with a significantly increased risk of coronary heart disease.

**You need to know, because high cholesterol parallels high blood pressure as a CHD risk factor.**

Epidemiological studies and large-scale prevention trials have indicated that as with blood pressure, serum cholesterol levels are proportionately related to CHD risk.

Specifically, "...for every 10 mmHg rise in pressure, there appears to be about a 30% rise in cardiovascular risk."<sup>4</sup> "...for every one percent you go up the American cholesterol scale, your subsequent rate of heart attack rises two to three percent."<sup>5</sup>

And although the specific impact on CHD has not been determined, we know that many of the principal agents used to lower blood pressure actually increase cholesterol.

**Wytensin® lowers blood pressure effectively without raising cholesterol.**

While Wytensin is not a cholesterol-lowering agent and is not indicated for the treatment of hyperlipidemia, in controlled clinical trials<sup>6</sup> it caused a slight, sustained decrease in total cholesterol without reducing the HDL fraction or altering serum triglycerides.

At the same time, Wytensin lowered blood pressure as effectively as hydrochlorothiazide, propranolol, clonidine or methyldopa. Drowsiness and/or dry mouth, the most frequent side effects noted with Wytensin, usually diminish or disappear over time. In fact, in double-blind studies to date, discontinuance of therapy for all side effects occurred in about 13% of patients.

**Wytensin®**  
(guanabenz acetate)

**Antihypertensive therapy that  
does not increase cholesterol**



See important information on following page.

**References:** 1. Glueck CJ: Remarks in the symposium, *Blood Pressure, Cholesterol and Coronary Heart Disease*, Washington, D.C., March 31, 1985. 2. *The Framingham Study, An epidemiological investigation of cardiovascular disease*, Section 28, U.S. Dept. of Health, Education, and Welfare. 3. National Institutes of Health Consensus Development Conference Statement, 1984: Vol 5, No 7, p 4. 4. Chobanian AV: The influence of hypertension and other hemodynamic factors in atherogenesis. *Progress in Cardiovascular Diseases*, XXVI (3): 177, Nov/Dec, 1983. 5. Castelli WP: Remarks in the symposium, *Blood Pressure, Cholesterol and Coronary Heart Disease*, Washington, D.C., March 31, 1985. 6. Data on file, Wyeth Laboratories.



# WyTensin<sup>®</sup>

(guanabenz acetate)

Antihypertensive therapy  
that does not increase cholesterol

## Brief Summary

Before prescribing, consult the complete package circular.

**Indications and Usage:** Treatment of hypertension, alone or in combination with a thiazide diuretic.

**Contraindication:** Known sensitivity to the drug.

**Precautions:** 1. Sedation: Causes sedation or drowsiness in a large fraction of patients. When used with centrally active depressants, e.g., phenothiazines, barbiturates and benzodiazepines, consider potential for additive sedative effects. 2. Patients with vascular insufficiency: Like other antihypertensives use with caution in severe coronary insufficiency, recent myocardial infarction, cerebrovascular disease, or severe hepatic or renal failure. 3. Rebound: Sudden cessation of therapy with central alpha agonists like WyTensin may rarely result in "overshoot" hypertension and more commonly produces increase in serum catecholamines and subjective symptomatology.

**INFORMATION FOR PATIENTS:** Advise patients on WyTensin to exercise caution when operating dangerous machinery or motor vehicles until it is determined they do not become drowsy or dizzy. Warn patients that tolerance for alcohol and other CNS depressants may be diminished. Advise patients not to discontinue therapy abruptly.

**LAB TESTS:** In clinical trials, no clinically significant lab test abnormalities were identified during acute or chronic therapy. Tests included CBC, urinalysis, electrolytes, SGOT, bilirubin, alkaline phosphatase, uric acid, BUN, creatinine, glucose, calcium, phosphorus, total protein, and Coombs' test. During long term use there was small decrease in serum cholesterol and total triglycerides without change in high density lipoprotein fraction. In rare instances occasional nonprogressive increase in liver enzymes was observed, but no clinical evidence of hepatic disease.

**DRUG INTERACTIONS:** WyTensin was not demonstrated to cause drug interactions when given with other drugs, e.g., digitals, diuretics, analgesics, anxiolytics, and antiinflammatory or antimetabolic agents, in clinical trials. However, potential for increased sedation when given concomitantly with CNS depressants should be noted.

**DRUG-LAB TEST INTERACTIONS:** No lab test abnormalities were identified with WyTensin use.

**CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY:** No evidence of carcinogenic potential emerged in rats during a two-year oral study with WyTensin at up to 9.5 mg/kg/day, i.e., about 10 times maximum recommended human dose. In the Salmonella/microsome mutagenicity (Ames) test system, WyTensin at 200-500 mcg/plate or at 30-50 mcg/ml in suspension gave dose-related increases in number of mutants in one (TA 1537) of five *Salmonella typhimurium* strains with or without inclusion of rat liver microsomes. No mutagenic activity was seen at doses up to those which inhibit growth in the eukaryotic microorganism, *Schizosaccharomyces pombe*, or in Chinese hamster ovary cells at doses up to those lethal to the cells in culture. In another eukaryotic system, *Vacccharomyces cerevisiae*, WyTensin produced no activity in an assay measuring induction of repairable DNA damage. Reproductive studies showed a decreased pregnancy rate in rats given high oral doses (9.6 mg/kg), suggesting impairment of fertility. Fertility of treated males (9.6 mg/kg) may also have been affected, as suggested by decreased pregnancy rate of mates, even though females received drug only during last third of pregnancy.

**PREGNANCY:** Pregnancy Category C. WYTENSIN<sup>®</sup> MAY HAVE ADVERSE EFFECTS ON FETUS WHEN ADMINISTERED TO PREGNANT WOMEN. A teratology study in mice indicated possible increase in skeletal abnormalities when WyTensin is given orally at doses 3 to 6 times maximum recommended human dose of 1.0 mg/kg. These abnormalities, principally costal and vertebral, were not noted in similar studies in rats and rabbits. However, increased fetal loss has been observed after oral WyTensin given to pregnant rats (14 mg/kg) and rabbits (20 mg/kg). Reproductive studies in rats have shown slightly decreased live birth indices, decreased fetal survival rate, and decreased pup body weight at oral doses of 6.4 and 9.6 mg/kg. There are no adequate, well-controlled studies in pregnant women. WyTensin should be used during pregnancy only if potential benefit justifies potential risk to fetus.

**NURSING MOTHERS:** Because no information is available on WyTensin excretion in human milk, it should not be given to nursing mothers.

**PEDIATRIC USE:** Safety and effectiveness in children less than 12 years of age have not been demonstrated; use in this age group cannot be recommended.

**Adverse Reactions:** Incidence of adverse effects was ascertained from controlled clinical studies in U.S. and is based on data from 859 patients on WyTensin for up to 3 years. There is some evidence that side effects are dose-related. Following table shows incidence of adverse effects in at least 5% of patients in study comparing WyTensin to placebo, at starting dose of 8 mg b.i.d.

Adverse Effect	Placebo (%) n = 102	WyTensin (%) n = 109
Dry mouth	~	28
Drowsiness or sedation	12	39
Dizziness	~	17
Weakness	~	10
Headache	6	5

In other controlled clinical trials at starting dose of 16 mg/day in 476 patients, incidence of dry mouth was slightly higher (38%) and dizziness was slightly lower (12%), but incidence of most frequent adverse effects was similar to placebo-controlled trial. Although these side effects were not serious, they led to discontinuation of treatment about 15% of the time. In more recent studies using an initial dose of 8 mg/day in 274 patients, incidence of drowsiness or sedation was lower, about 20%. Other adverse effects reported during clinical trials but not clearly distinguishable from placebo effects and occurring with frequency of 3% or less: Cardiovascular—chest pain, edema, arrhythmias, palpitations. Gastrointestinal—nausea, epigastric pain, diarrhea, vomiting, constipation, abdominal discomfort. Central nervous system—anxiety, ataxia, depression, sleep disturbances, ENT disorders—nasal congestion. Eye disorders—blurring of vision. Musculoskeletal—aches in extremities, muscle aches. Respiratory—dyspnea. Dermatologic—rash, pruritus. Urogenital—urinary frequency, disturbances of sexual function. Other—gynecomastia, taste disorders.

**Drug Abuse and Dependence:** No dependence or abuse has been reported.

**Overdosage:** Accidental ingestion caused hypotension, somnolence, lethargy, irritability, miosis, and bradycardia in two children aged one and three years. Gastric lavage and pressor substances, fluids, and oral activated charcoal resulted in complete and uneventful recovery within 12 hours in both. Since experience with accidental overdosage is limited, suggested treatment is mainly supportive while drug is being eliminated and until patient is no longer symptomatic. Vital signs and fluid balance should be carefully monitored. Adequate airway should be maintained and, if indicated, assisted respiration instituted. No data are available on WyTensin dialyzability.

**Dosage and Administration:** Individualize dosage. A starting dose of 4 mg b.i.d. is recommended, whether used alone or with a thiazide diuretic. Dosage may be increased in increments of 4 to 8 mg/day every one to two weeks, depending on response. Maximum dose studied has been 32 mg b.i.d., but doses this high are rarely needed.

**How Supplied:** (guanabenz acetate) Tablets, 4 mg, bottles of 100 and 500; 8 mg and 16 mg, bottles of 100. Revised 2/14/85

Wyeth Laboratories  
Philadelphia, Pa. 19101

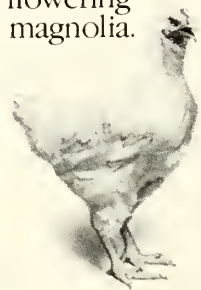


©1984, Wyeth Laboratories



## TWELVE IMPECCABLE EXCUSES FOR NOT GIVING BLOOD.

1. I think I have lumbago.
2. I'm type Z negative.
3. I'm on the grapefruit diet.
4. I gave six months ago.
5. I just got back from Monaco.
6. The lines are thirteen blocks long.
7. My mother won't let me.
8. I didn't sign up.
9. I'm going out of town.
10. Asthma runs in my family.
11. I forgot to eat this morning.
12. I'm allergic to flowering magnolia.



Each one's a doozy,  
but we're hoping you  
won't use any of them.  
Give blood through the  
American Red Cross.  
Please, don't chicken out.

**EXCUSES DON'T SAVE LIVES.  
BLOOD DOES.**

American  
Red Cross



# Sudden Death in Single Coronary Artery Occurring During Coronary Angiography

TSAU-YUEN HUANG, M.D.  
Gary

**S**INGLE CORONARY ARTERY is a rare congenital anomaly of the coronary arteries, in which there is only one coronary ostium serving as the only source of the coronary arteries and their branches. The incidence of single coronary artery is estimated to be approximately 0.02% in the large series of autopsy<sup>1</sup> or coronary angiography studies.<sup>2</sup> Approximately 40% of the cases of single coronary artery have associated congenital cardiovascular anomalies, such as transposition of the great vessels, coronary arteriovenous fistula, bicuspid aortic valve, tetralogy of Fallot, and others. Single coronary artery occurs slightly more often in men than in women, and may arise from the right or left anterior sinus of Valsalva in almost equal incidence.<sup>3</sup> Although single coronary artery without concomitant cardiovascular anomalies is considered to be compatible with normal life expectancy,<sup>4</sup> angina pectoris,<sup>5,6</sup> acute myocardial infarct,<sup>7</sup> or sudden deaths<sup>8</sup> with or without occlusive coronary artery diseases have been reported. The following is a unique case of single coronary artery in a 45-year-old man who died suddenly during coronary angiography for evaluation of unstable angina.

## Abstract

This report describes a case of single coronary artery (L-1) in a 45 year-old man who died suddenly during coronary angiography for evaluation of unstable angina. Autopsy revealed marked atherosclerosis of the coronary arteries with segmental 80% occlusion

of the lumens. The immediate cause of death was laceration of an atheromatous plaque in the proximal main coronary artery with atheromatous emboli in the left anterior descending artery and several intramyocardial arteries. Clinical significance of single coronary artery is briefly discussed.

## Case Report

A 45-year-old man was admitted to the hospital for evaluation of unstable angina. Physical examination and routine laboratory tests were all within normal limits. Coronary angiography was performed. The patient suddenly developed cardiac arrhythmia, chest pain, and died during coronary angiography.

Autopsy revealed moderate myocardial hypertrophy. The heart weighed 450 grams. There was a single coronary ostium at 1.0 cm above the left sinus of Valsalva (*Fig. 1*). The ostium was oval in shape with an approximately 15° slant toward the commissure of the right and left anterior aortic cusps. The long axis of the ostium measured 1.5 cm and the short axis 0.7 cm. The ostium was slightly toward the right and bordered at the commissure. The main coronary artery measured 1.0 cm in diameter. It descended anterolaterally to become anterior descending artery. The left circumflex artery arose at 2.5 cm distal to the origin of the main coronary artery. It coursed posterolaterally and posteriorly along the atrioventricular groove and continued beyond the crux to supply the anterolateral wall of the right ventricle. Both anterior descending and the circumflex arteries were larger and more tortuous than usual. Each

measured 0.8 cm in diameter at its orifice. Marked atherosclerotic changes with segmental 80% occlusion were present in the coronary arteries.

Microscopically, a section of the main coronary artery showed marked atherosclerosis with 80% narrowing of the lumen by an atheromatous plaque. There was a laceration of the intima with ruptured atheromatous plaque and presence of the atheromatous material within the lumen (*Fig. 2*). Complete occlusion by an atheromatous embolus was noted in the proximal anterior descending artery (*Fig. 3*) and several intramyocardial arteries (*Fig. 4*). Focal interstitial fibrosis and myocardial ischemic changes were also present.

## Comment

Congenital single coronary artery is thought to be due to absence or misplacement of one coronary artery anlage. There are three major types of single coronary artery:<sup>4</sup> type 1, single coronary artery in the distribution of only one coronary artery; type 2, single coronary artery in the distribution of both coronary arteries; and type 3, atypical distribution of single coronary artery. The present case belongs to L-1 of the type 1 group,<sup>2,3</sup> namely, a single coronary artery following the distribution of the left coronary artery. Single

Correspondence: Dept. of Pathology, St. Mary Medical Center, 540 Tyler St., Gary, Ind. 46402.

Acknowledgment: The author thanks Rosie Ricks for secretarial assistance.





FIGURE 1: An oval-shaped coronary ostium (triangular paper pointer) present above the left sinus of Valsalva (L). R = Right sinus of Valsalva. P = Posterior sinus of Valsalva. \* = Portion of the left sinus of Valsalva.

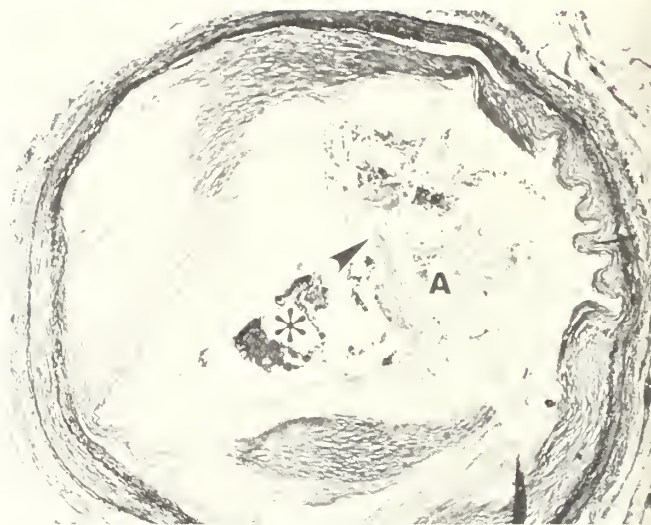


FIGURE 2: Main coronary artery showing marked atherosclerosis with 80% narrowing of the lumen by an atheromatous plaque (A), laceration of intima (arrow), and presence of atheromatous material (\*) in the lumen. Elastic von Gieson's stain. X25.

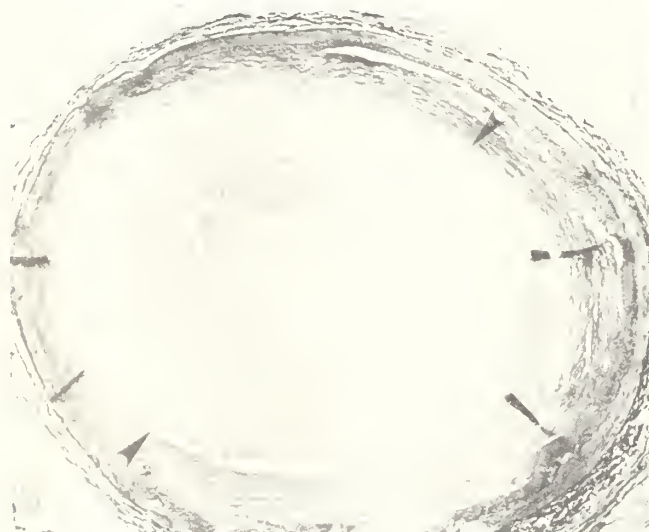


FIGURE 3: Anterior descending artery completely occluded by an atheromatous embolus (arrows). Elastic von Gieson's stain. X25.

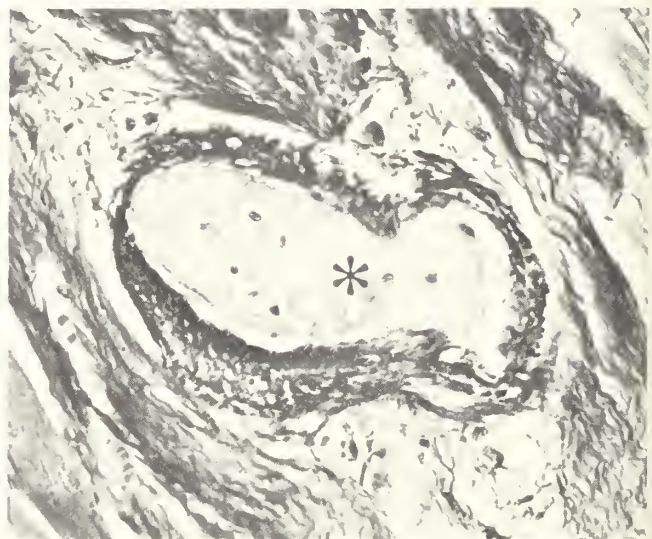


FIGURE 4: An intramyocardial artery showing presence of an atheromatous embolus (\*) in the lumen. Elastic von Gieson's stain. X400.

coronary artery without associated cardiovascular anomalies is considered to be innocuous. However, angina pectoris, acute myocardial infarct, sudden death with or without occlusive coronary artery diseases have been reported. These were explained on the basis of an aberrant artery being

squeezed between the aorta and the pulmonary artery resulting in compromised blood supply, especially during physical stress.<sup>8</sup>

In the present case, there was marked atherosclerosis of the coronary artery which might be partly due to angulation at the orifice, larger caliber,

and tortuosity of the single coronary artery.<sup>9</sup> Atherosclerosis in single coronary artery is probably clinically more significant than that in anatomically normal coronary artery, especially when the atherosclerotic plaques are present in the proximal portion of the single coronary artery.



Acute coronary occlusions during coronary angiography have been reported in approximately 0.4% of the coronary angiography procedures.<sup>10</sup> They are due to either dissection or embolism. To my knowledge, this is the first case of single coronary artery complicated with acute coronary occlusion during coronary angiography due to laceration of an atheromatous plaque resulting in atheromatous emboli in the tributaries of the single coronary artery and sudden death.

#### REFERENCES

1. Alexander RW, Griffith GC: Anomalies of the coronary arteries and their clinical significance. *Circulation*, 14:800-805, 1956.
2. Lipton MJ, Barry WH, Obrez I, *et al*: Isolated single coronary artery: Diagnosis, angiographic classification, and clinical significance. *Radiology*, 130:39-47, 1979.
3. Ogden JA, Goodyer AVN: Patterns of distribution of the single coronary artery. *Yale J Biol Med*, 43:11-21, 1970.
4. Smith, JC: Review of single coronary artery with report of 2 cases. *Circulation*, 1:1168-1175, 1950.
5. Pachinger OM, VandenHoven P, Judkins MP: Single coronary artery—a cause of angina pectoris. *Eur J Cardiol*, 2:161-165, 1974.
6. Stroobandt R, Piessens J, Suy R, *et al*: Unstable angina pectoris in single coronary artery. *Acta Cardiol*, 29:469-475, 1974.
7. Tomaru A, Reid JD: Single coronary artery with myocardial infarction and AV block. *Arch Pathol*, 99:143-146, 1975.
8. Cheitlin MD, DeCastro CM, McAllister HA: Sudden death as a complication of anomalous left coronary origin from the anterior sinus of Valsalva. A not so minor congenital anomaly. *Circulation*, 50:780-787, 1974.
9. Spring DA, Thomsen JH: Severe atherosclerosis in the "single coronary artery". Report of a previously undescribed pattern. *Am J Cardiol*, 31:662-665, 1973.
10. Guss SB, Zir LM, Garrison HB, *et al*: Coronary occlusion during coronary angiography. *Circulation*, 52:1063-1068, 1975.

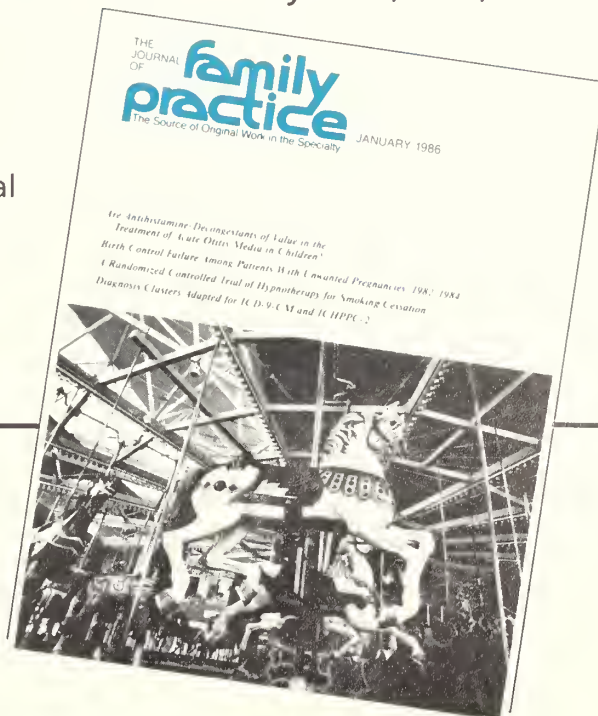
For Original Work in the Specialty

# ...GO TO THE SOURCE

THE JOURNAL OF FAMILY PRACTICE • John P. Geyman, MD, Editor

- Reaches over 74,000 physicians monthly
- More citations in **Index Medicus** for family practice than any other journal
- Ranked **first** as the most prestigious medical journal among family physician educators
- Peer reviewed by experts in family medicine

The Journal Division  
Appleton-Century-Crofts  
25 Van Zant St.  
E. Norwalk, CT 06855  
(203) 838-4400



# Wolff-Parkinson-White Syndrome: Cryosurgical Treatment

DOUGLAS P. ZIPES, M.D.

YOUSUF MAHOMED, M.D.

ROBERT D. KING, M.D.

JAMES J. HEGER, M.D.

WILLIAM M. MILES, M.D.

JOHN BROWN, M.D.

DAVID E. ADAMS, BSEE

ERIC N. PRYSTOWSKY, M.D.

Indianapolis

**T**HE PURPOSE of this report is to review briefly a newly devised cryosurgical approach to the treatment of patients with the Wolff-Parkinson-White syndrome.

## Preexcitation Syndrome: Definition and Mechanisms

Preexcitation occurs when the atrial impulse activates the ventricle, or the ventricular impulse activates the atrium, earlier than would be expected if the impulse traveled by way of the normal conduction system only. In the Wolff-Parkinson-White syndrome, connections most often composed of working myocardial fibers exist outside the specialized conducting system, connecting atrium and ventricle and thus bypassing the normal pathway. They are named accessory atrioventricular (AV) pathways or connections, generally are called Kent bundles, and are responsible for the most common variety of ventricular preexcitation.<sup>1</sup>

If the accessory pathway is capable of anterograde propagation, two parallel routes of anterograde AV conduction are possible, one subject to physiologic delay over the AV node and the other passing directly without AV nodal delay from atrium to ventricle. This produces the typical QRS complex that is a fusion beat due to depolarization of the ventricle in part by the wavefront traveling over the accessory pathway and in part by the wavefront traveling over the normal AV node-His bundle route. The delta wave represents ventricular activation from input over the accessory pathway. The extent of contribution to ventricular depolarization by the wavefront over each route depends upon their relative activation times. If AV nodal conduction delay occurs, because of a

premature atrial complex for example, more of the ventricle becomes activated over the accessory pathway and the QRS complex becomes more anomalous in contour.

Three basic electrocardiographic features typify patients with the usual form of WPW syndrome caused by an AV connection: 1) PR interval less than 120 msec during sinus rhythm; 2) QRS complex duration exceeding 120 msec with a slurred, slowly rising onset of the QRS in some leads (delta wave) and usually a normal terminal QRS portion; and 3), secondary ST-T wave changes that are generally directed opposite to the major delta and QRS vectors (*Fig. 1*).<sup>1</sup>

The tracings in *Figure 1* illustrate the electrophysiology in a patient with Wolff-Parkinson-White syndrome.<sup>2</sup> During right atrial pacing at a cycle length of 500 msec ( $S_1$ - $S_1$ ), His bundle activation occurs slightly in advance of the onset of the QRS complex (first interrupted line). The impulse propagates from the atrium, reaches the ventricle over the normal pathway, activating the His bundle enroute. The impulse also travels simultaneously to the ventricle over the accessory pathway, creating the delta wave (at the interrupted line). Following premature atrial stimulation ( $S_2$ ), AV nodal conduction delay occurs normally, but there is no delay over the accessory pathway. Consequently, more of the ventricle becomes activated via the accessory pathway, creating a more prominent delta wave and more anomalous ventricular excitation. His bundle activation now occurs well after the onset of the QRS complex (second interrupted line).

It is important to remember that, even though the Kent bundle conducts

From the Krannert Institute of Cardiology, Departments of Medicine and Surgery, Indiana University School of Medicine and the Richard L. Roudebush Veterans Administration Medical Center, Indianapolis.

This study supported in part by the Herman C. Krannert Fund; by Grants HL-06308 and HL-07182 from the National Heart, Lung and Blood Institute of the National Institutes of Health, Bethesda, Md.; the Attorney General of Indiana Public Health Trust; the Roudebush Veterans Administration Medical Center; and by a Grant-in-Aid from the American Heart Association, Indiana Affiliate, Inc., Indianapolis, Ind.

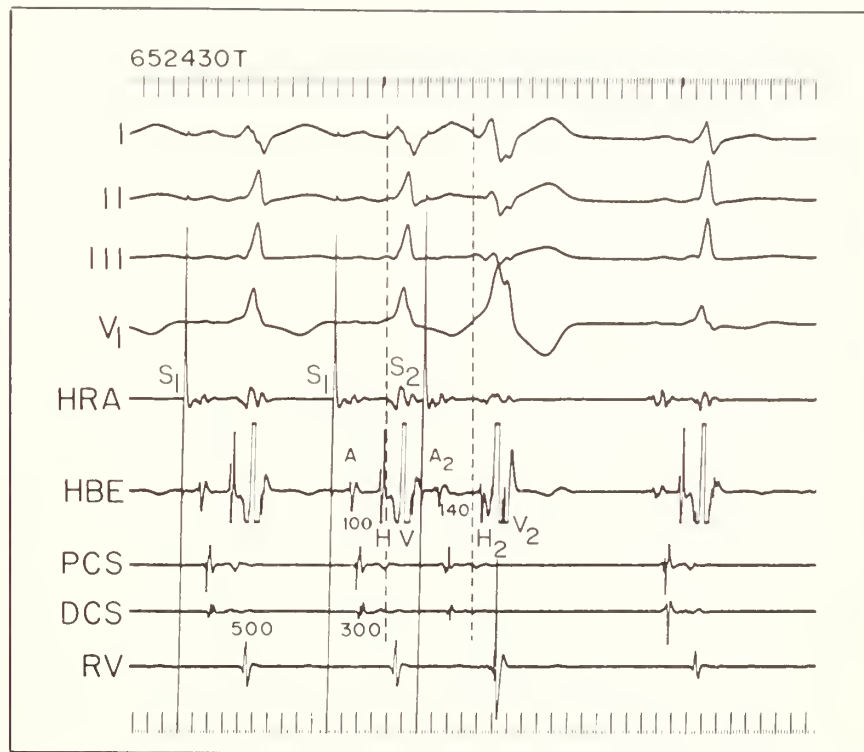
Correspondence: Douglas P. Zipes, M.D., Indiana University School of Medicine, Krannert Institute of Cardiology, 1001 W. 10th St., Indianapolis, Ind. 46202.

more rapidly than does the AV node, the Kent bundle usually has a longer refractory period during long cycle lengths than does the AV node. Consequently, a premature atrial complex can occur sufficiently early to block anterogradely in the accessory pathway and conduct to the ventricle only over the normal AV node-His bundle. The resultant HV interval and the QRS complex become normal. Such an event may initiate the most common type of reciprocating tachycardia, which is characterized by anterograde conduction over the normal pathway and retrograde conduction over the accessory pathway (*Fig. 2*). In this tachycardia the accessory pathway, blocking in an anterograde direction, recovers excitability in time to be activated in a retrograde direction after the QRS complex, completing the reentrant loop.

In *Figure 2*, the  $S_1$ - $S_2$  interval has been shortened to 230 msec. The atrial response to  $S_2$  now blocks in the accessory pathway and results in activation of the ventricle by conducting only over the normal pathway. Slight functional aberration of the QRS complex occurs. Note that His bundle activation following  $S_2$  precedes the onset of the QRS complex by a normal HV interval. Note also that retrograde atrial activation follows the QRS complex, initiated first in the distal coronary sinus (DCS) recording lead. Thereafter a supraventricular tachycardia is maintained. The AV reciprocating tachycardia has a normal QRS complex, ventricular rates of 150 to 250 beats/minute and sudden onset and termination. Atrial flutter or atrial fibrillation can also occur in patients with W-P-W syndrome and result in very rigid ventricular rates.

#### Determining the Site of the Pathway

The accessory pathway can be located anywhere in the AV ring, except at the anatomically contiguous area between the aorta and anterior mitral valve attachment on the annulus. The anatomical position, particularly for accessory pathways



**FIGURE 1:** WPW syndrome. Following high right atrial pacing at a cycle length of 500 msec ( $S_1$ - $S_1$ ), premature stimulation at a coupling interval of 300 msec ( $S_1$ - $S_2$ ) produces physiological delay in AV nodal conduction resulting in an increase in the AH interval from 100 to 140 msec but no delay in the AV interval. Consequently, activation of the His bundle occurs following activation of the QRS complex (second interrupted line) and the QRS complex becomes more anomalous in appearance due to increased ventricular activation over the accessory pathway. I, II, III and V<sub>1</sub> are scalar leads, I, II, III and V<sub>1</sub> respectively. HRA, high right atrium; HBE, His bundle electrogram; PCS, proximal coronary sinus electrogram; DCS, distal coronary sinus electrogram; RV, right ventricular electrogram. Time lines 50 and 10 msec intervals.  $S_1$ , stimulus of the drive train;  $S_2$ , premature stimulus. A<sub>1</sub>, H<sub>1</sub>, V<sub>1</sub>, atrial His bundle and ventricular activation during the drive train. A<sub>2</sub>, H<sub>2</sub>, V<sub>2</sub>, atrial His and ventricular activation during the premature stimulus.

located in the freewall, can be approximated by careful analysis of the spatial direction of the delta wave in the 12 lead ECG in maximally preexcited beats. The delta wave being upright in lead 1, V<sub>1</sub>, and V<sub>6</sub> (not shown), biphasic in lead 2 and lead 3 indicates a leftsided accessory pathway, probably posterolateral in position.<sup>3</sup>

The preoperative electrophysiological study is essential to determine the nature of the tachycardia and provide preliminary information regarding the localization of the accessory pathway.

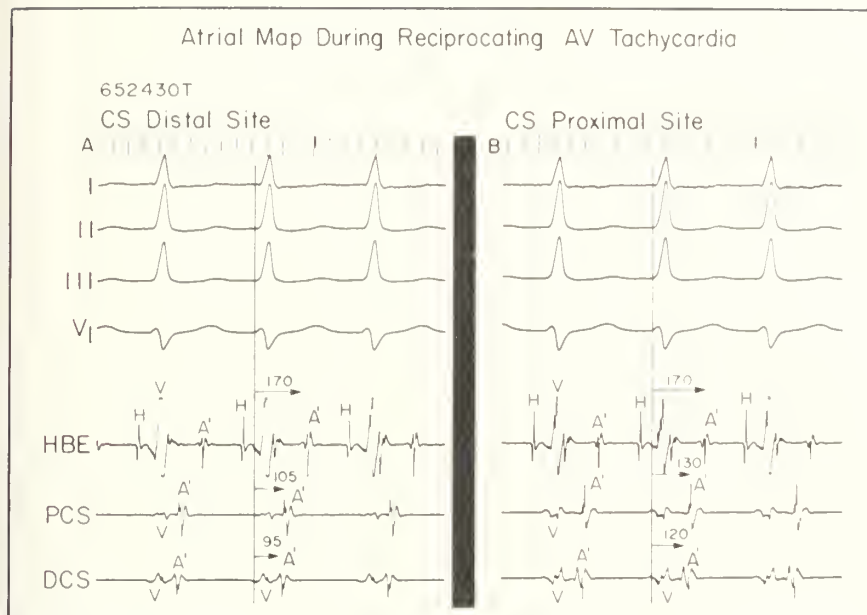
This is particularly important if the tachycardia cannot be initiated at the time of surgery due to temporary block in the accessory pathway, for example. However, because the preoperative study using catheters does not provide sufficient anatomic resolution of the pathway location, an intraoperative map is essential.

When retrograde atrial activation during tachycardia occurs over an accessory pathway that connects the left atrium to the left ventricle, the earliest retrograde atrial activity is recorded





### Atrial Map During Reciprocating AV Tachycardia



**FIGURE 3:** Atrial map during reciprocating atrioventricular tachycardia. In panel A the catheter is passed far into the coronary sinus so that its distal pair of electrodes lie in close proximity to the lateral border of the heart. In this region the shortest VA conduction time is recorded (95 msec) during tachycardia. The more proximal pair of electrodes record a VA time of 105 msec indicating that they are further away from the site of the pathway. When the catheter is withdrawn to a position closer to the coronary sinus os (panel B) the VA interval recorded with the distal pair of electrodes increases to 120 msec.

opened through a median sternotomy and electrodes are sewn on the atrium and ventricle. The patient is placed on partial cardiopulmonary bypass as a precautionary measure should hypotension result during induced tachycardia and cardiac manipulation. Premature atrial and/or ventricular stimulation is used to initiate an AV reciprocating tachycardia and the location of the accessory pathway is determined as described above. The left AV sulcus is visualized by retracting the left atrial appendage. For a left-sided Kent bundle, the AV fat pad in the left lateral region is dissected away from the atrium, exposing the junction of the ventricle with the atrium at the AV sulcus (Fig. 6). Generally, the delta wave disappears after dissection and retraction of the A-V fat pad. While the fat pad and vascular contents are retracted, the cryoprobe is positioned

against the atrial wall, overlapping onto the AV sulcus and adjacent ventricle. The cryoprobe is cooled to  $-60^{\circ}\text{C}$  for two minutes and adjoining cryolesions are created in the region of accessory pathway insertion. Cryolesions produced by this technique heal by fibrosis into firm, well-delineated nonarrhythmogenic scars. Following cryoablation, the fat pad is released and allowed to return to its position. Absence of accessory pathway conduction is verified intraoperatively, one day postoperatively and just prior to discharge. A similar procedure is done for accessory connections on the right side.

Using this extracardiac technique, at the present time we have cryoablated the accessory pathway in 18 consecutive patients with Wolff-Parkinson-White syndrome who had frequently reoccurring, disabling reciprocating

AV tachycardias and/or atrial fibrillation. One patient had a leaking prosthetic aortic valve replaced at the same time and another patient had a prosthetic mitral valve inserted for right mitral stenosis. Their ages ranged from 16 to 67. Twelve were males. Nine patients had posteroseptal pathways, nine had left ventricular and three had right ventricular free wall accessory pathways. Three patients had two accessory pathways. It is important to recognize that some patients may have multiple pathways.<sup>9</sup> There was no mortality. No patient had any unusual operative morbidity and no patient had recurrence of tachycardia or return of conduction in the accessory pathway following surgery during a follow-up of one to 12 months (range).

### Surgical Candidates

Surgical ablation of the accessory pathway is advisable for patients with frequently recurring symptomatic tachyarrhythmias that are not fully controlled by drugs or who have rapid AV conduction in the accessory pathway during atrial flutter or fibrillation and in whom significant slowing of the ventricular response cannot be obtained by drug therapy. Because the mortality from this procedure should be close to zero and the success rate over 90%, surgery may be considered in young patients with tachycardia rather than consigning them to a lifetime of drug therapy. More recently, catheter ablation techniques have been used but these should be regarded as experimental.<sup>10</sup>

### Summary

For selected patients with supraventricular tachycardias, cryoablative procedures offer the potential of curative therapy: complete elimination of the tachycardia without requiring subsequent drug or electrical therapy. The practice of medicine does not present many opportunities when we can actually cure a patient of a problem such as a tachycardia. When this occurs, it is particularly gratifying for patient and physician.

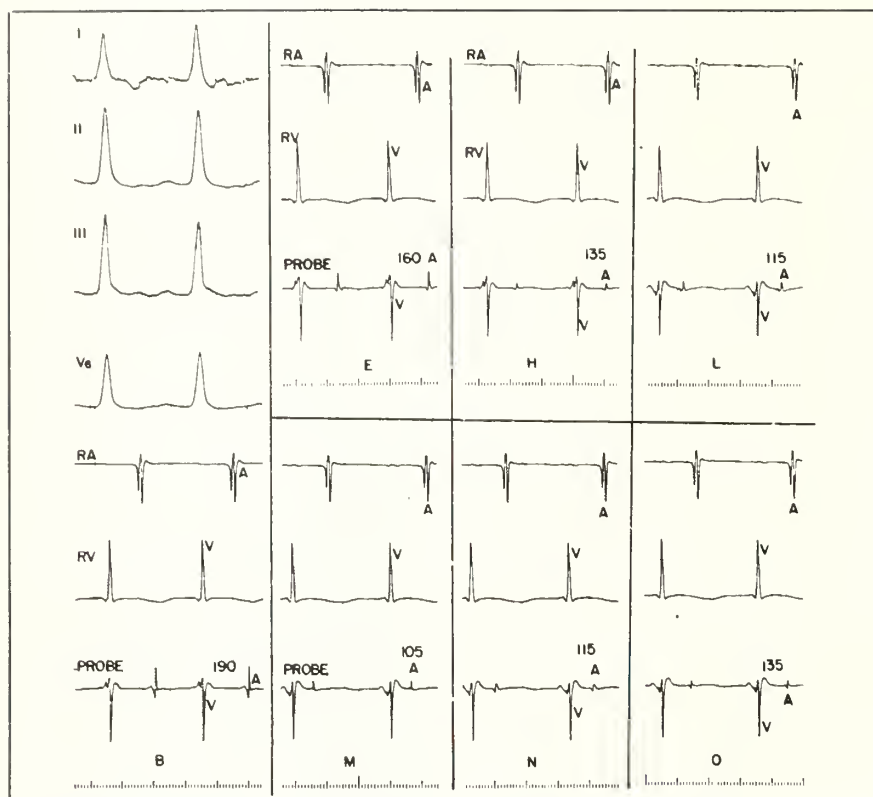


FIGURE 4: Epicardial map. Recordings directly from the heart during the supraventricular tachycardia at the time of the intraoperative mapping study are displayed. In the left panel, scalar leads 1, 2, 3 and V<sub>6</sub> are recorded, along with electrograms from electrodes sewn on the right atrium (RA) and right ventricle (RV). The probe electrode is placed at different sites to record local electrical activity. The VA intervals are given in msec. In the six right-hand panels only RA, RV and probe channels are displayed showing the VA interval at sites E, H, L, M, N, and O. Note that the shortest VA interval (105 msec) is recorded from site M (see Figure 5).

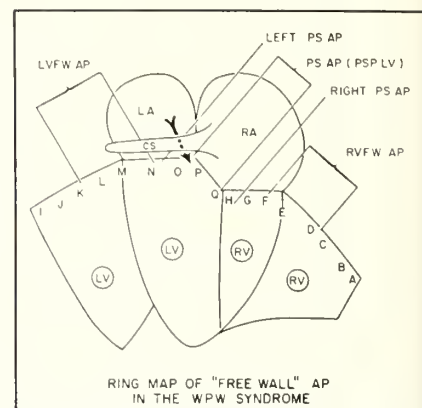
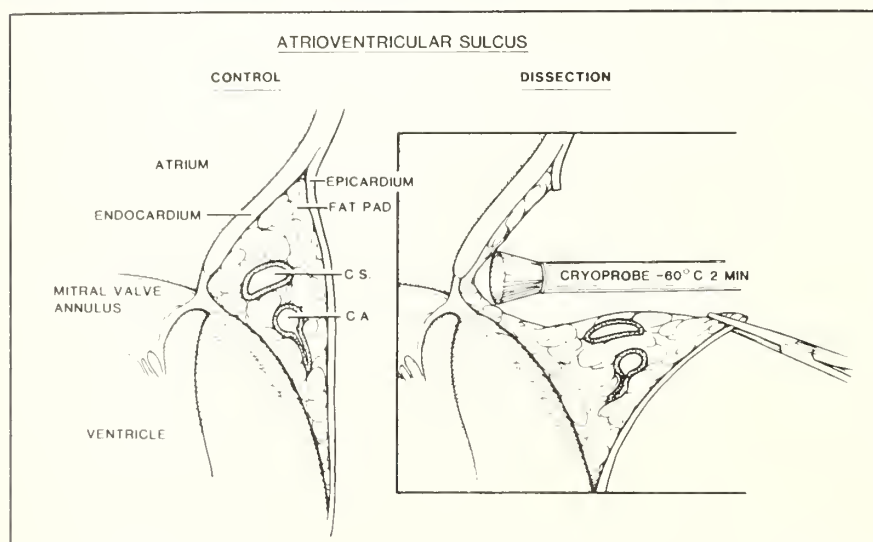


FIGURE 5: Schematic diagram of the recorded sites. The heart shown from a posterior view, can be visualized as being opened anteriorly and spread out, much as if an individual with his back to us unbuttoned a shirt and spread it out so that the right margin of the shirt would be at site A and the left margin of the shirt would be at site I. Site E represents the right margin of the heart, Q and II the "crux" with the posterior descending coronary artery in that area, and site M represents the left margin of the heart. The contiguous right and left atria are shown. Sites for the location of the left ventricular free wall accessory pathway (LFWAP), left posterior septal accessory pathway (PSAP), posterior septal accessory pathway (PSAP), right posterior septal accessory pathway (PSAP) and right ventricular free wall accessory pathway (RVFWAP) are shown. The AV groove is indicated by the straight line with the letters beneath which label each recording site. CS indicates the coronary sinus and the dark arrow indicates the mitral valve location. Site M (Figure 4) would be a pathway located at the left lateral margin of the heart. (Reproduced with permission from Klein, et al.)

FIGURE 6: Atrioventricular sulcus. The left panel depicts the left AV groove and AV fat pad in which the coronary sinus (CS) and coronary artery (CA) are located. In the panel on the right, the fat pad has been dissected free and a cryoprobe placed at the AV junction freezing the local AV tissue to -60°C for 2 minutes.



## REFERENCES

1. Prystowsky EN, Miles WM, Heger JJ, *et al*: Preexcitation syndrome: mechanisms and management. *Med Clin N Am Symposium on Cardiac Arrhythmias I*, ed Zipes DP, W.P. Saunders, Philadelphia 1984, pp 831-893.
2. Zipes DP: Specific arrhythmias: diagnosis and treatment. In: *Heart Disease: A Textbook of Cardiovascular Medicine*. Edition 2, Braunwald E, ed W. B. Saunders, Vol. 1, pp 683-743, 1984.
3. Gallagher JJ, Pritchett ELC, Sealy WC, *et al*: The preexcitation syndrome. *Prog Cardiovasc Dis*, 20(4):285-327, 1978.
4. Klein GJ, Giraudon GM, Perkins DG, *et al*: Surgical correction of the Wolff-Parkinson-White syndrome in the closed-heart using cryosurgery: a simplified approach. *J Am Coll Cardiol*, 3(2):405-409, 1984.
5. Cobb FR, Blumenschein SD, Sealy WC, *et al*: Successful surgical interruption of the bundle of Kent in a patient with Wolff Parkinson White syndrome. *Circulation*, 38:1018-1029, 1968.
6. Sealy WC, Wallace AG, Ramming KP, *et al*: An improved operation for the definitive treatment of the Wolff Parkinson-White syndrome. *Ann Thorac Surg*, 17(2):107-113, 1974.
7. Giraudon GM, Klein GJ, Gulamhusein S, *et al*: Surgical repair of Wolff Parkinson-White syndrome: A new close heart technique. *Ann Thorac Surg*, 37(1):67-71, 1984.
8. Cox JL: The status of surgery for cardiac arrhythmias. *Circulation*, 71:413-417, 1985.
9. Bardy GH, Packer DL, German LD, *et al*: Preexcited reciprocating tachycardia in patients with Wolff Parkinson-White syndrome: incidence and mechanisms. *Circulation*, 70:377-391, 1984.
10. Morady F, Scheinman MM, Winston SA, *et al*: Efficacy and safety of trans-catheter ablation of posteroseptal accessory pathways. *Circulation*, 72(1):170-177, 1985.

## ARMY PHYSICIANS PRACTICE MEDICINE, NOT LAW.

The Army Medical Department believes in excellence in the practice of medicine. That means allowing our physicians to work at perfecting their medical skills, and not being burdened with endless insurance forms, malpractice premiums, cash flow worries. And they need not concern themselves with the ability of the patient to pay.

Part of Army medical excellence is prescribing the best possible care—not the least care, nor most defensive care. If you believe in this kind of comprehensive health care, you may wish to explore the many exciting possibilities Army Medicine has for you. We invite your call:

(313) 668-2190 (collect)

**ARMY MEDICINE.  
BE ALL YOU CAN BE.**

# Malignant Obstructive Jaundice: Causes and Management Alternatives

T. JEFFERY WIEMAN, M.D.  
Louisville, Ky.

**T**ECHNICAL ADVANCES during the last several years have significantly changed the management of patients presenting with jaundice. Until recently, these patients provided a formidable challenge to the physician. The history and physical examinations were frequently inconclusive. Long lists of laboratory and roentgenographic studies often led to very ill patients undergoing exploratory laparotomy. A number of patients without biliary obstruction were subjected to major operations. Often patients with malignant obstruction were so debilitated that staged operative procedures were required. Today, the approach to these patients is much improved.

## Diagnosis

An accurate and prompt diagnosis may be obtained in a large majority of patients with obstructive jaundice (*Figure 1*). Ultrasound scanning should be the initial method of assessment. Real-time scanning can detect dilated bile ducts as well as cystic and solid lesions within the head of the pancreas. The gallbladder and liver should be included in each evaluation. Ultrasound by itself cannot provide a definitive diagnosis, but when combined with percutaneous aspiration cytology, patho-

## Abstract

A number of improvements have been made recently in the management of patients who developed obstructive jaundice. These improvements are based on technological advancements and a better understanding of the disease involved. When obstruction is

caused by a neoplasm, knowledge of its natural history and anatomic location will permit the selective application of local resection, endoscopic sphincterotomy and indwelling prostheses. Radical surgery can thus be reserved for a more select group of patients.

gnomonic evidence of malignant bile duct obstruction may be obtained.<sup>1,2</sup> Cytologic examination of fluid from biliary and pancreatic ducts has also been shown to be helpful in the diagnosis of malignancy.<sup>3</sup> Histologic material may occasionally be required to determine the exact tissue type. This is especially true in the diagnosis of a lymphoma.<sup>1,4</sup> Although needle tract seeding has occurred in cases of carcinoma of the pancreas, the occurrence is rare.<sup>5,6</sup> A percutaneous biopsy is not necessary if operation is anticipated.

Although endoscopic retrograde cholangiopancreatography (ERCP) has the disadvantage of requiring substantial expertise to perform and to interpret, it provides the most comprehensive approach to the diagnosis of a patient with malignant obstruction and allows visualization of the entire upper gastrointestinal tract. Direct inspection

of the duodenum and papilla of Vater also can be accomplished with ERCP. If the ducts are injected with x-ray contrast, location and extent of obstruction may be found. Biopsy of visible tumors allows diagnosis of ampullary cancers that might go undetected by other means. If a combination of cytology, biopsy and contrast study is used, correct diagnosis may be expected in 95% of patients in whom the ampulla is cannulated.<sup>7</sup> Pancreatitis or cholangitis may occur after partially obstructed ducts are injected. Such complications are uncommon if the ductal system is not over distended.

Percutaneous transhepatic cholangiography (PTC) may be useful when the ampulla cannot be cannulated at ERCP or when ultrasound identifies only dilated intrahepatic ducts. A successful PTC can be obtained in 95% of attempts.<sup>7</sup> The ducts must be complete-

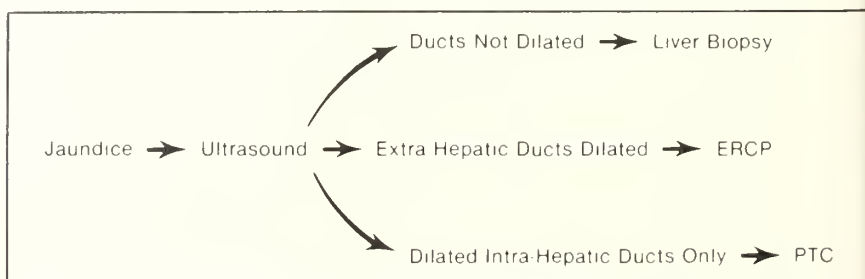


FIGURE 1: Initial evaluation in a jaundiced patient.

From the Dept. of Surgery, University of Louisville School of Medicine, Louisville, Ky.

Correspondence: Dept. of Surgery, Ambulatory Care Bldg., University of Louisville, Louisville, Ky. 40292.

ly filled with contrast material since inspissated bile in the common hepatic duct may be very slowly displaced by the contrast material and lead to the false impression of the presence of a proximal duct obstruction. Delayed films and elevation of the patient to a vertical position during fluoroscopy can prevent such misinterpretations. Since the contrast material is placed in the intrahepatic ducts, it is possible to outline the proximal extension of high bile duct lesions that may be missed on ERCP. Bile may be aspirated for cytologic examination as well as biopsies and brushings, although these are more complicated maneuvers. Complications associated with percutaneous transhepatic cholangiography include sepsis, bile peritonitis and bleeding. A coagulation profile should be obtained and clotting defects corrected before this procedure is attempted. The incidence of bile peritonitis and sepsis is slightly higher with percutaneous transhepatic cholangiography than with ERCP.<sup>8</sup>

The use of computed tomography (CT) may allow tumors of the head, body and tail of the pancreas to be identified, as well as bile duct dilation and hepatic metastasis. The sensitivity (85%) and specificity (85%) of CT are approximately the same as for ERCP and ultrasound scanning.<sup>7</sup> Percutaneous cytologic aspiration is also possible with CT.

The frequency of detection of pancreatic lesions and hepatic metastases is about the same with the use of visceral angiography as it is with CT and provides valuable information about resectability of pancreatic lesions.<sup>9,10</sup> However, periampullary and bile duct tumors are not seen with visceral angiography, and angiography requires equipment that is not always available.

Other tests recently evaluated in the diagnosis of malignant biliary obstruction include the secretion tests for pancreatic function and CEA analysis of serum, bile and pancreatic juices.<sup>6,11,12</sup> Although all of these studies yield some abnormal findings, none have the sen-

**TABLE 1**  
**Tumors Causing Obstruction of the Bile Ducts**

Ampullary	Neuroendocrine
Duodenal	Lymphomas
Bile duct	Sarcomas
Pancreatic	Metastatic

sitivity or specificity necessary to be of value in clinical diagnosis. The recently introduced tumor-associated antigen CA 19-9 does seem to possess more specificity and sensitivity than CEA.<sup>13,14</sup> However, a more definitive assessment of this substance will be necessary before its real value is known.

#### Tumors and Their Natural Histories

The tumors known to cause bile duct obstruction are listed in *Table 1*. Epidemiologically, very little is known about these tumors. At one time or another, coffee, alcohol, tobacco and asbestos were all considered to be causally related, but the relationships have proven weak.<sup>15,16</sup> It is known that men develop pancreatic cancer more frequently than women, and that it is more commonly found in the black population and the aged.<sup>17,18</sup> A reasonably strong relationship has been identified between the diagnosis of maturity-onset diabetes and the subsequent clinical development of carcinoma of the pancreas. Moosa<sup>19</sup> noted that in approximately 80% of patients with carcinoma of the pancreas an abnormal glucose tolerance test was present at diagnosis. Over 40% of these patients were diagnosed as new diabetics within two years of detection of their cancers.<sup>19</sup> Nix, *et al.*<sup>20</sup> found a similar incidence of sudden-onset adult diabetes; however, the linkage between diabetes and carcinoma is not well understood.

Pancreatic ductal adenocarcinoma is the most common cancer found obstructing the biliary tract, constituting approximately 90% of the

tumors that cause malignant obstruction. Typically, the patient presents with the characteristic symptoms of vague back and abdominal pain, weight loss and jaundice.<sup>19</sup> These symptoms, with the exception of jaundice, have usually been present for some months. The natural course of the disease is one of lymphatic, hepatic and pulmonary metastases leading to rapid deterioration and death. Death usually occurs within six to nine months, with or without treatment. The overall five-year survival rate is approximately 2%. From pathologic evidence, it is known that metastasis to lymph nodes occurs very early in most patients.<sup>21</sup> Early dissemination combined with late onset of vague symptoms probably accounts for the poor prognosis for this disease. There are variants of pancreatic adenocarcinomas that do have a better prognosis. Cystadenocarcinomas, encountered most often in women, are rare tumors that have a very different natural history and a 70% five-year survival rate.<sup>22</sup>

Ampullary carcinomas are generally regarded as the next most common cause of obstructive jaundice.<sup>23</sup> These malignancies arise from the ductal epithelium distal to the confluence of the common bile duct and pancreatic duct (*Figure 2*). They are histologically designated as adenocarcinomas. Frequently, patients with ampullary carcinomas present only with jaundice. Ampullary tumors are slower to metastasize. Approximately one-third of these tumors are found to have nodal metastases at initial exploration.<sup>21</sup> The primary lesions are often small. Until ERCP came into use, diagnosis was found only at operation. The five-year survival rate for these tumors is 35%.<sup>23,25</sup>

Carcinomas of the duodenum are found to be typical adenocarcinomas on histologic examination. In addition to causing biliary obstruction, they frequently ulcerate, bleed and lead to duodenal obstruction. About 30% of duodenal carcinomas have nodal metastases at the time of exploration.<sup>23</sup>



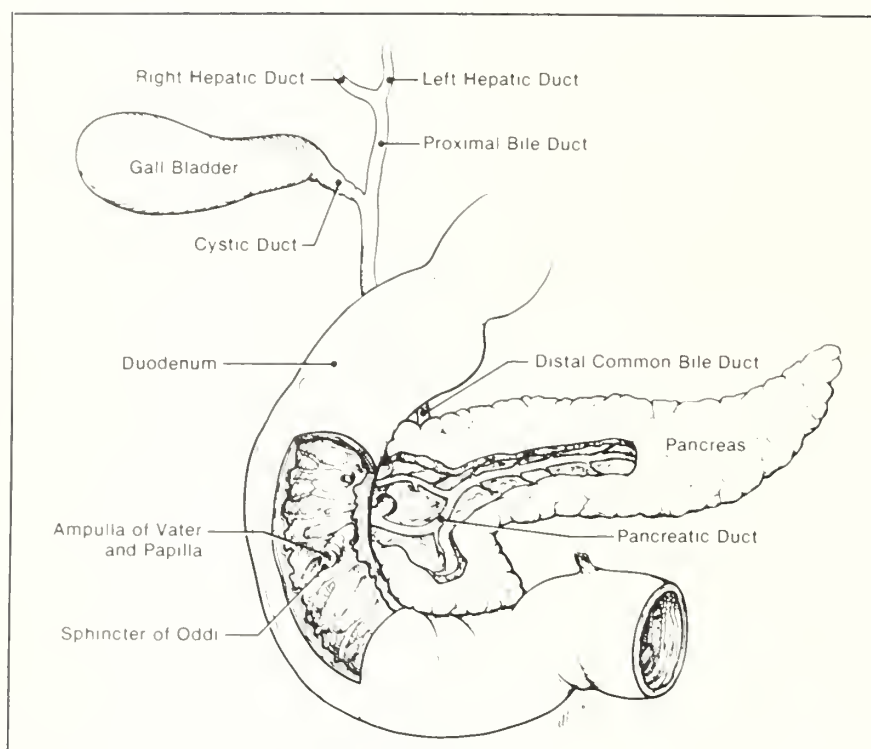


FIGURE 2: Anatomy of periampullary region.

The five-year survival rate ranges from 25-40%.<sup>23,24</sup> Anatomically, it may be difficult to determine whether the site of origin of a large duodenal tumor is the papilla, the duodenum or the pancreas.

Carcinomas of the common bile duct account for approximately 2% of all patients presenting with malignant jaundice.<sup>26</sup> These tumors are commonly located in the proximal bile ducts (*Figure 2*) but may also be found distally.<sup>27</sup> The tumors are scirrhous or papillary. Because of their consistency and small size, it may be quite difficult to obtain a positive cytologic diagnosis. The natural history varies. Some tumors remain localized for long periods, but the overall five-year survival rate is only 10-15%.<sup>27</sup>

Neuroendocrine tumors, including those listed in *Table 2*, are rare but do occasionally cause obstruction of the biliary ductal system.<sup>28</sup> The malignant nature of these tumors and their tendency to metastasize are extreme-

ly variable. Symptoms related to these tumors, apart from jaundice, are associated with their secretory states and the extent of metastases. The

symptoms of functional tumors are also listed in *Table 2*.

Lymphomas have been reported in the duodenum.<sup>4</sup> They are usually asymptomatic until large enough to obstruct the biliary tract or intestinal lumen. Primary localized lymphomas of the intestine are curable with resection and radiotherapy. The survival rate is greater than 85% in selected groups.<sup>29</sup> If the presence of this tumor is suspected, histologic material should be obtained prior to treatment since knowledge of nodal architecture is important for precise diagnosis.

#### Treatment

Traditionally, patients with malignant obstructive jaundice have been treated by one of two methods: resection or bypass. Resection is advocated for the young, fit patient and is designed primarily for cure. The majority of patients undergo bypass operations either because of advanced disease or because they are not considered to be in good enough health to tolerate a radical resection.

The classic resection for periampullary tumors is radical pancreaticoduodenectomy (Whipple operation). Several variations of the operation

TABLE 2  
Neuroendocrine Tumors of the Pancreas

Tumor	Secretory Product	Symptoms
Zollinger-Ellison	Gastrin	Diarrhea, ulcer diathesis
Glucagonoma	Glucagon	Dermatitis, diabetes, glossitis
Insulinoma	Insulin	Neuropsychiatric, sweating, hunger
Vipoma (WDHA)	Vasoactive intestinal peptide	Watery diarrhea, weakness, hypokalemia, achlorhydria
Somatostatinoma	Pancreatic polypeptide	Cholelithiasis, diabetes, steatorrhea
	Prostaglandins	
	Somatostatin	



FIGURE 3: Endoprosthesis entering the duodenum through an ampullary tumor.

have evolved. Total pancreatectomy has been advocated for three reasons: 1) to decrease the incidence of morbidity associated with pancreatojejunal anastomosis, 2) to eliminate the possibility of leaving cancer at the margin of resection, and 3) to eliminate the possibility of multicentric disease remaining in the distal pancreas.<sup>30</sup> Regional pancreatectomy has been used by Fortner and associates for treating patients with extensive local tumors.<sup>31</sup> The operation includes total pancreaticoduodenectomy, splenectomy, partial gastrectomy, extensive node dissection and replacement of portal and mesenteric blood vessels, if necessary. There are no controlled studies for this procedure, and it carries a high surgical risk. Fortner,<sup>32</sup> however, reported several patients who survived more than four years. In general, the mortality from the radical standard pancreaticoduodenectomy is between 5% and 10%. Long-term morbidity is significant. Pain, gastrointestinal and nutritional problems are the most severe. None of the variations of pancreaticoduodenectomy has significantly improved results of a standard Whipple operation, and each introduces new problems.

Pancreaticoduodenectomy with preservation of the pylorus is being investigated at present. The advantages of this operation include fewer postoperative gastrointestinal symptoms and improved nutritional status.<sup>33</sup> Meticulous attention to the blood supply of the distal stomach is required. This procedure should not be used in

pancreatic cancers because of the difficulty in obtaining adequate tumor margins. Also, experimentally, gastrin released by the antrum increased the rate of tumor growth in the pancreas.<sup>34</sup> Recently, lesser resections have been attempted for small tumors in the periampullary region. Local excision with reimplantation of the bile and pancreatic ducts has been successful.<sup>35</sup> At the same time, gastrointestinal integrity has been preserved and postoperative morbidity reduced.

Carcinomas of the proximal bile ducts are rarely curable.<sup>27</sup> Attempts usually require extensive liver resections that have attendant high morbidity and mortality rates. There is little evidence that resection improves long-term survival; however, if cure is to be attempted, it is the only option.

The most successful palliative procedure that provides some form of biliary bypass is the choledochojejunostomy. Cholecystojejunostomy is used if technical factors require it; however, this anastomosis is likely to become obstructed by tumor ascending the cystic duct. There is also a tendency to develop stasis and stones in the gallbladder, as first described by Whipple.<sup>36</sup> Bypass of high bile duct tumors has been, at best, difficult. Many procedures have been designed to treat obstruction in this region. Blumgart has carefully described what seems to be the most satisfactory technique<sup>37</sup> using a hepaticojejunostomy to the left hepatic duct. The addition of gastroenteric anastomosis to circumvent potential duodenal obstruction has

been controversial. In most series, 15-25% of patients ultimately develop duodenal obstruction.<sup>38,39</sup> Typically, this occurs late in the course of the patient's illness. If not treated, it leads to prolonged hospitalization, nasogastric intubation and poor quality of life. Since there is little additional morbidity associated with a gastroenteric anastomosis performed at the time of initial biliary bypass, it seems logical to complete it unless the cancer is high in the biliary tree, well away from the duodenum.

Endoscopic and percutaneous procedures have been developed in an attempt to reduce the morbidity and mortality of treating patients, many of whom are debilitated or elderly. Cotton and others have described endoscopic techniques of placing prostheses through periampullary and bile duct tumors to provide biliary decompression without major operation (*Figure 3*).<sup>40-42</sup> Obstructions can also be relieved percutaneously, but endoscopic placement has several advantages. First, bile drains into the gastrointestinal tract so that bile salts are preserved and digestion remains physiological. Second, there are no external tubes that are uncomfortable, leak bile and excoriate the skin. Third, there is no tract for tumor implantation. The problem of stent obstruction has become less serious with the use of larger lumen endoscopic prostheses that obstruct infrequently and have a technical success rate of 89%, which is comparable to that of percutaneous drainage.<sup>43</sup> Complications are no more frequent or serious than other forms of palliation.<sup>43</sup> A failed attempt to endoscopically place the prosthesis does not preclude the subsequent use of other forms of palliation.

Papillary tumors of the ampulla have recently been treated by using endoscopic sphincterotomy (ES) alone.<sup>43,44</sup> These tumors are slow growing and tend to occur in older patients. By cutting through the tumor with a sphincterotome, good biliary decompression has been obtained and maintained in

a number of individuals (Figure 4). Several investigators are following patients in whom only ES has been performed. A few patients have required repeat procedures.<sup>43</sup> Bleeding has occurred more frequently after ES in these patients than it has in patients with nonmalignant obstruction. It is too early to compare this approach with traditional therapy, but the initial results give reason for some optimism.

For years, it has been thought that part of the high morbidity and mortality associated with operation in patients with obstructive jaundice was due to hyperbilirubinemia. Several investigators have addressed this,<sup>45-47</sup> but controlled studies have failed to show a decrease in mortality when preoperative biliary decompression was performed. Indeed, there was substantial morbidity associated with this procedure. Morbidity and mortality in obstructed patients may be related more to poor nutrition and the associated delay in wound healing than to hyperbilirubinemia per se.<sup>48</sup>

Chemotherapy has not proven to be a valuable adjunct to treatment in pancreatic adenocarcinoma. Clinical responses do occur, but substantive improvement in the outcome of patients has not been made. Scattered reports of the use of streptozocin and other agents have been equally discouraging in improving treatment of pancreatic endocrine tumors.

Radiotherapy has been useful in relieving symptoms of metastases, but the overall response has not been good. Trials of intraoperative radiotherapy with electron beam are in progress at some major medical centers. Results of these studies are inconclusive at present.<sup>49</sup>

## Discussion

Good management strategy ideally begins with prevention, or at least early detection. Knowledge of neoplasms affecting the biliary system is not sufficient to allow the use of such approaches; therefore, one is left with the task of refining present treatments

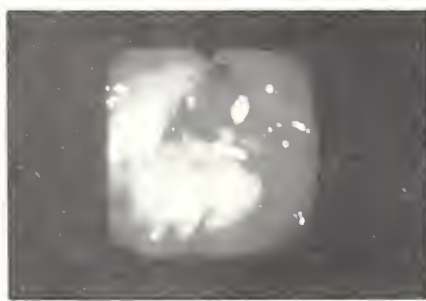


FIGURE 4: Endoscopic sphincterotomy through a papillary tumor.

to optimize results. This can be done in several ways. First, diagnosis must be prompt and complete before the patient's general health deteriorates. Second, the nutritional status of the patient must be made optimal before any major operations are considered. Third, the clinician must be familiar with the complete range of treatment alternatives and must know how treatment is best applied in any given clinical situation. Enthusiasm for new techniques has occasionally overshadowed the idea that cure is the overriding desire of most patients. Personal wishes of the patient must be carefully considered when suggesting a particular course of therapy.

## REFERENCES

1. Ferruci JT Jr, Whittenberg J, Mueller PR, Siemone JF, Harbin WP, Kirkpatrick RH, Taft PD: Diagnosis of malignancy by radiologic fine needle aspiration biopsy. *Am J Roentgenol*, 134:323-330, 1980.
2. Hovedenak N, Lees WR, Pereira J, Beilby JO, Cotton PB: Ultrasound guided percutaneous needle aspiration cytology in pancreatic cancer. *Br Med J*, 285:1183-1184, 1982.
3. Tatsuta M, Yamamura H, Yamamoto R, Okano Y, Morri T, Okuda S, Tamura H: Significance of CEA levels and cytology of pure pancreatic juice in the diagnosis of pancreatic cancer. *Cancer*, 52:1880-1885, 1983.
4. Lee Y-TN, Spratt JS Jr: In Malignant Lymphoma. Nodal and Extranodal Diseases. New York: Grune & Stratton, 1974, p. 130.
5. Ferruci JT Jr, Whittenberg J, Margolles MN, Carey RW: Malignant seeding of the tract after thin needle aspiration biopsy. *Radiology*, 130:345-346, 1979.
6. Smith FP, Macdonald JS, Schein PS, Ornitz RD: Cutaneous seeding of pancreatic cancer by skinny needle aspiration biopsy. *Arch Intern Med*, 140:855-856, 1980.
7. Freeny PG, Ball TJ: Endoscopic retrograde cholangiopancreatography (ERCP) and percutaneous transhepatic cholangiography (PTC) in evaluation of suspected pancreatic carcinoma. *Cancer*, 47:1666-1678, 1981.
8. Elias E, Hamlyn AN, Jain S, Long RG, Summerfield JA, Dick R, Sherlock S: A randomized trial of percutaneous transhepatic cholangiography with the Chiba needle versus endoscopic retrograde cholangiography for bile duct visualization in jaundice. *Gastroenterology*, 71:439-443, 1986.
9. Rosch J, Keller F: Pancreatic arteriography, transhepatic venography and pancreatic venous sampling in diagnosis of pancreatic cancer. *Cancer*, 47:1679-1684, 1981.
10. Mackie CR, Moosa AR, Frank PH: The place of angiography in diagnosis and management of pancreatic trauma. In Moosa AR (ed), *Tumors of the Pancreas*. Baltimore: Waverly Press, 1980, pp. 355-380.
11. Scheele GA: Human pancreatic cancer: Analysis of proteins contained in pancreatic juice by two dimensional isoelectric focusing/sodium dodecyl sulfate gel phoresis. *Cancer*, 47:1513-1515, 1981.
12. Reber H, Tweedie H, Austin J: Pancreatic secretions are a clue to pancreatic cancer. *Cancer*, 47:1646-1651, 1981.
13. Bocchia P, Tommasini M, Marchi R, Beretta E, Di Carlo V, Molesci A: Determination of CA 19-9 in serum and pancreatic juice of patients with pancreatic disease. Abstract. *Gastroenterology*, 86:1030, 1984.
14. Klapdor R, Lehman W, Bahlo M, Schmiegell W, Guthoff A, Schreiber HW, Gieten H: CA 19-9 and CEA in the follow-up of exocrine pancreatic cancer disease. Abstract. *Gastroenterology*, 86:1137, 1984.
15. MacMahon B, Yen S, Trichopoulos D, Warren K, Nordi G: Coffee and cancer of the pancreas. *N Engl J Med*, 304:630-633, 1981.
16. Goldstein HR: No association found between coffee and cancer of the pancreas. *N Engl J Med*, 306:997, 1981.
17. Levin D, Connelly RR, Devesa S: Demographic characteristics of cancer of pancreas. *Cancer*, 47:1456-1468, 1981.
18. Selikoff I, Seidman H: Cancer of the pancreas among asbestos insulation workers. *Cancer*, 47:1469-1473, 1981.
19. Moosa AR, Levin J: The diagnosis of



- "early" pancreatic cancer. *Cancer*, 47:1688-1697, 1981.
20. Nix G, Schmitz P, Wilson J, Van Blankensein M, Goreneveld C, Hofwijk R: Carcinoma of the head of the pancreas. Therapeutic implications of ERCP findings. *Gastroenterology*, 87:37-43, 1984.
  21. Cubilla A, Fortner J, Fitzgerald P: Lymph node involvement in carcinoma of the head of the pancreas area. *Cancer*, 41:880-887, 1978.
  22. von Segesser L, Rohner A: Pancreatic cystadenoma and cystadenocarcinoma. *Br J Surg*, 71:449-451, 1984.
  23. Warren KW, Choi DS, Plaza J, Relihan JJ: Results of resection for periampullary carcinoma. *Ann Surg*, 181:534-540, 1975.
  24. Akwari OE, Van Heerden JA, Adson EA, Baggettoss AH: Radical pancreaticoduodenectomy for cancer of the papilla of Vater. *Arch Surg*, 112:451-456, 1977.
  25. Coutsoftidies T, McDonald J, Shibato HR: Carcinoma of the pancreas and periampullary region: A 41 year experience. *Ann Surg*, 186:730-733, 1977.
  26. Forrest JF, Longmire WP: Carcinoma of the pancreas and periampullary region. *Ann Surg*, 189:129-138, 1979.
  27. Tompkins RK, Thomas D, Wile A, Longmire WP: Prognostic factors in bile duct carcinoma. *Ann Surg*, 194:447-557, 1981.
  28. DiBisceglie AM: Pancreatic endocrine tumors presenting with obstructive jaundice. *Am J Gastroenterol*, 79:43-45, 1984.
  29. Loehr WJ, Mujahed Z, Zahn FD, Grey GF, Thorbjarnarson B: Primary lymphoma of the gastrointestinal tract. A review of 100 cases. *Ann Surg*, 170:232-238, 1969.
  30. Moosa AR: Pancreatic cancer. Approach to diagnosis, selection for surgery and choice of operation. *Cancer*, 50 (Supplement 11):2689-2698, 1982.
  31. Fortner JG, Kim DK, Cubilla A, Turnbull A, Pahnke LD, Shils ME: Regional pancreatectomy: en bloc pancreatic, portal vein and lymph node resection. *Ann Surg*, 186:42-50, 1977.
  32. Fortner JG: Regional pancreatectomy for cancer of the pancreas, ampulla, and other related sites: tumor staging and results. *Ann Surg*, 199:418-425, 1984.
  33. Traverso LW, Longmire WP Jr: Preservation of the pylorus in pancreaticoduodenectomy. *Surg Gynecol Obstet*, 146:959-962, 1978.
  34. Johnson LR: Effects of gastrointestinal hormones on pancreatic growth. *Cancer*, 47:1640-1645, 1981.
  35. Isaksoon G, Ihse I, Andren Sandberg A, Evander A, Lofgren B, Millbourn E: Local excision for ampullary carcinoma. *Acta Chir Scand*, 148:163-165, 1982.
  36. Whipple AO: Observations on radical operations for lesions of the pancreas. *Surg Gynecol Obstet*, 82:623-631, 1946.
  37. Blumgart LH, Kelley CJ: Hepaticojunostomy in benign and malignant bile duct stricture: Approaches to the left hepatic ducts. *Br J Surg*, 71:257-261, 1984.
  38. Bhievermicht SW, Neifield JP, Terz JJ: The role of prophylactic gastrojejunostomy for unresectable periampullary Ca. *Surg Gynecol Obstet*, 151:794-796, 1980.
  39. Sarr MG, Cameron JC: Surgical management of unresectable carcinoma of the pancreas. *Surgery*, 91:123-133, 1982.
  40. Cotton PB: Duodenoscopic placement of biliary prostheses to relieve malignant obstructive jaundice. *Br J Surg*, 69:501-503, 1982.
  41. Zimmon DS, Clemmett AR: Endoscopic stents and drains in the management of pancreatic and bile duct obstruction. *Surg Clin North Am*, 62(5):837-844, 1982.
  42. Huibregtse K, Tytgat GN: Palliative treatment of obstructive jaundice by transpapillary introduction of large bore bile duct endoprosthesis. *Gut*, 23:371-375, 1982.
  43. Leung JWC, Emery R, Cotton PB, Russell RCG, Vallon AG, Mason RR: Management of malignant obstructive jaundice at the Middlesex Hospital. *Br J Surg*, 70:584-586, 1983.
  44. Venables CW: The papilla and malignancy: Problems in clinical practice. In Salmon P (ed), *Gastrointestinal Endoscopy: Advances in Diagnosis and Therapy*. London: Chapman & Hall, 1984, pp. 207-218.
  45. Hatfield ARW, Terblanche J, Fataari S, Kernoff L, Tobias R, Girdwood AH, Harries Jones R, Marks IN: Preoperative external biliary drainage in obstructive jaundice. A prospective controlled trial. *Lancet*, ii:896-899, 1982.
  46. McPherson GAD, Benjamin IS, Hodgson HJF, Bowley NB, Allison DJ, Blumgart LH: Preoperative percutaneous transhepatic bile drainage: The results of a controlled trial. *Br J Surg*, 71:371-375, 1984.
  47. Armstrong CP, Dixon JM, Taylor TV, Davies GC: Surgical experience of deeply jaundiced patient with bile duct obstruction. *Br J Surg*, 71:234-238, 1984.
  48. Armstrong CP, Dixon JM, Duffy SW, Elton RA, Davies GC: Wound healing in obstructive jaundice. *Br J Surg*, 71:267-270, 1984.
  49. Rich T: Radiation therapy for pancreatic cancer: Eleven year experience at JCRT. *Int J Radiat Oncol Biol Phys*, 11:759-763, 1985.

## INDIANA MEDICAL BUREAU

1010 East 86th St.—72 Winterton  
Indianapolis 46240  
844-7933

*A Licensed Employment Agency  
Specializing in Medical Personnel*

*Since 1952*

---

Review by  
Austin L. Gardner, M.D.  
Indianapolis

---



## ANNALS of THE ROYAL COLLEGE OF SURGEONS of England

---

Extracorporeal shockwave lithotripsy in 200 patients with urinary calculi was presented by D.R. Webb, J.E.A. Wickham, and other urologists from Devonshire Hospital in London:

The experience was impressive for the lack of complications and the high incidence of success, as indicated by the 1.6% incidence of percutaneous nephrolithotripsy, and only 1.5% incidence of open renal or ureteric surgery.

This tremendous change in urological surgery has come about since 1980, when it was introduced in West Germany by the Dornier Company in collaboration with a urologist at the University of Munich (over 40,000 patients have been treated worldwide). (Dr. Daniel Newman reports that 3,600 have been treated at Methodist Hospital in Indianapolis.) The shockwave is generated by pass-

ing an ultrashort high tension electrical discharge underwater to form an arc between two electrodes. The stone fragments are passed with minimal discomfort.

Anaesthesia for Extracorporeal Shock Wave Lithotripsy by Miriam Frank and other anaesthesiologists from The London Hospital:

The use of general and epidural anesthesia was discussed and complications described including hypotension, bradycardia, dysrhythmias and episodes of nausea.

Abdominocervical Oesophagectomy in the Elderly by R.C.N. Williamson of the University of Bristol:

This was a fascinating presentation describing the transhiatal resection of cancer of the esophagus, with no attempt at curative resection in eight pa-

tients, with three patients dying of their disease at 12, 17, and 21 months and the five survivors swallowing satisfactorily. The mobilization of the stomach and duodenum to facilitate the cervical anastomosis was extensive and there were few complications.

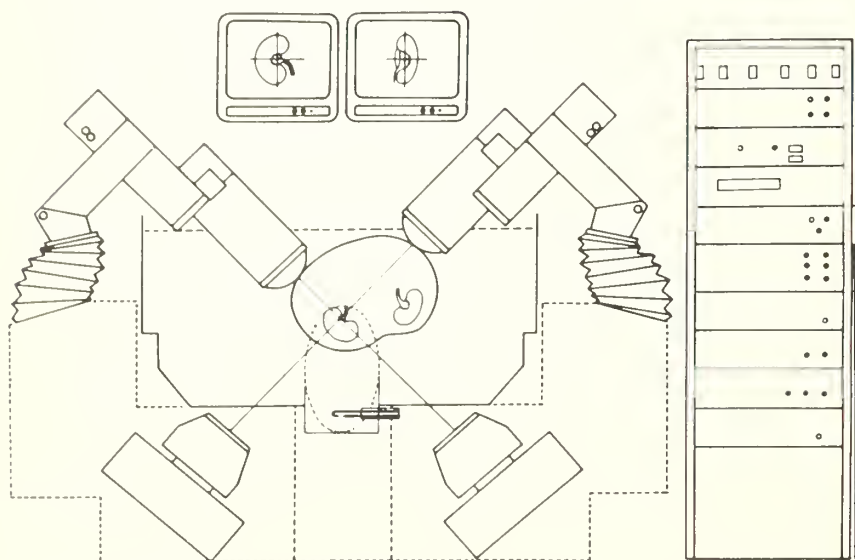
Basel C. Morson, V.R.D., D.M., F.R.C.S., F.R.C.P., F.R.C. Path summarized the life of Cuthbert E. Dukes, who died in 1977, noting that his classification of malignancy "provided a sound basis for modern surgical treatment and is used throughout the world as a guide to prognosis." His interest in bacteriology led to many reports and a biography of Lord Lister. He was felt to have a whimsical sense of humor and he refused all honors in retirement.

Investigation of Disorders of the Anorectum and Colon by Michael M. Henry, F.R.C.S. and other surgeons from St. Mark's Hospital:

Many techniques such as anal manometry, balloon proctography, balloon expulsion test, colonic transit studies, and nerve stimulation techniques are described and their application to clinical medicine noted.

The Role of the Skin in Dupuytren's Disease by John Hueston of the Royal Melbourne Hospital, Australia:

The McIndoe Memorial lecture emphasized the role of the skin in the care of the contracture. Three hundred eighty-three Wolfe (full thickness) grafts were used in over 3,000 fasciectomy (mostly recurrent), with good results. McIndoe's inquiring, direct, and pragmatic approach to surgical problems would have led to this technique.



Schematic cross section of lithotripter showing biplanar x-ray localization of the calculus at the shockwave focus, image intensifier screens and remote control panel.





YEARS

Thank you for your loyal support

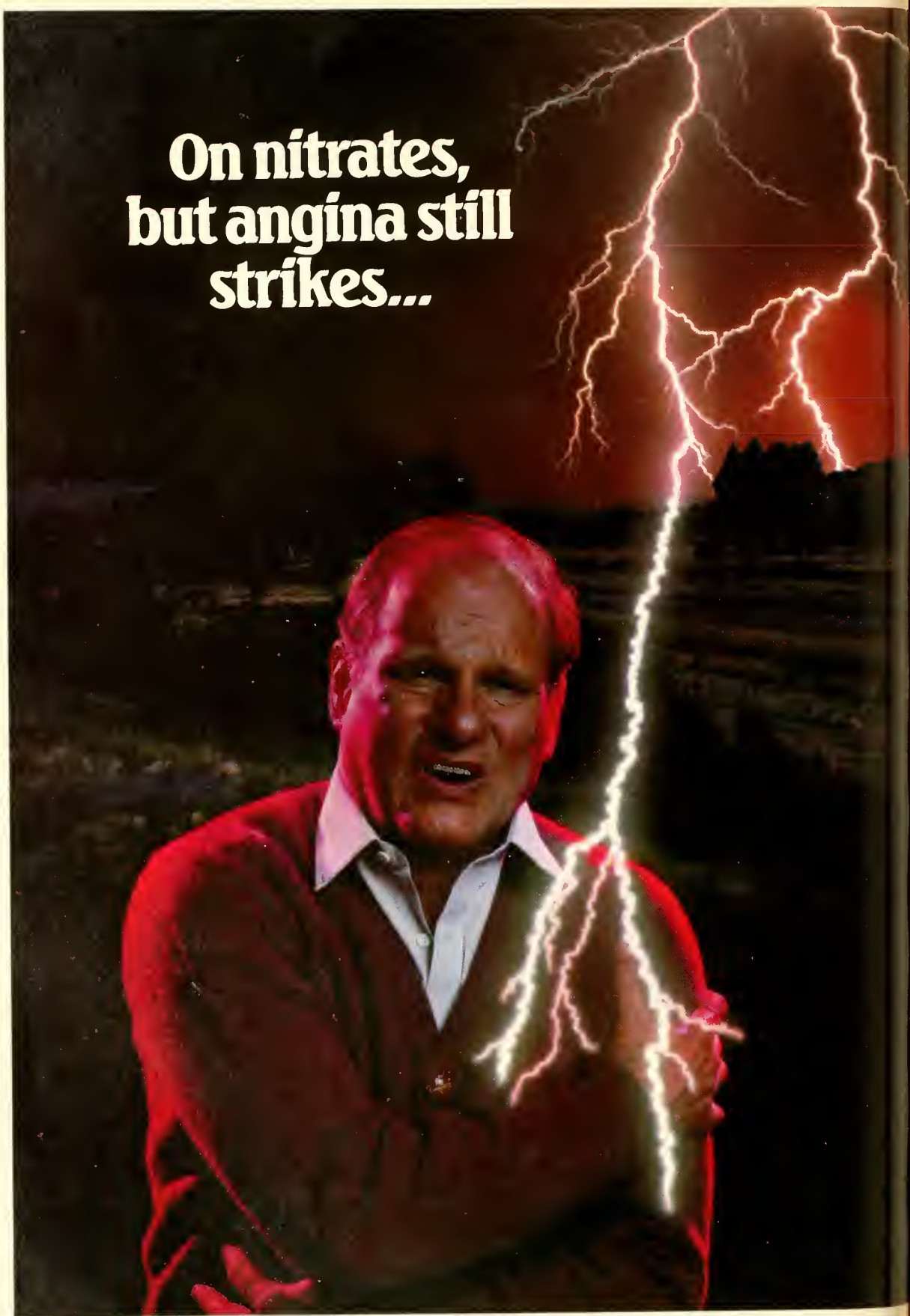


**DYAZIDE<sup>®</sup>**  
25 mg Hydrochlorothiazide/50 mg Triamterene/SKF

**SK&F CO.**



**On nitrates,  
but angina still  
strikes...**



# After a nitrate, add ISOPTIN<sup>®</sup> (verapamil HCl/Knoll)

To protect your patients, as well as their quality of life,  
add Isoptin instead of a beta blocker.

**F**irst, Isoptin not only reduces myocardial oxygen demand by reducing peripheral resistance, but also increases coronary perfusion by preventing coronary vasospasm and dilating coronary arteries — both normal and stenotic. These are antianginal actions that no beta blocker can provide.

Second, Isoptin spares patients the beta-blocker side effects that may compromise the quality of life.

With Isoptin, fatigue, bradycardia and mental depression are rare. Unlike beta blockers, Isoptin can safely be given to patients with asthma, COPD, diabetes or peripheral vascular disease. Serious adverse reactions with Isoptin are rare at recommended doses; the single most common side effect is constipation (6.3%).

Cardiovascular contraindications to the use of Isoptin are similar to those of beta blockers: severe left ventricular dysfunction, hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no artificial pacemaker is present) and second- or third-degree AV block.

So, the next time a nitrate is not enough, add Isoptin... for more comprehensive antianginal protection without side effects which may cramp an active life style.



**ISOPTIN. Added  
antianginal protection  
without beta-blocker  
side effects.**



# ISOPTIN® (verapamil HCl/Knoll)

80 mg and 120 mg scored, film-coated tablets

**Contraindications:** Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure < 90 mm Hg) or cardiogenic shock, sick sinus syndrome (except in patients with a functioning artificial ventricular pacemaker), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction < 30% or moderate to severe symptoms of cardiac failure) and in patients with any degree of ventricular dysfunction if they are receiving a beta blocker. (See *Precautions*.) Patients with milder ventricular dysfunction should, if possible, be controlled with optimum doses of digitalis and/or diuretics before ISOPTIN is used. (Note interactions with digoxin under *Precautions*.) ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild and controlled by decrease in ISOPTIN dose). Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Such elevations may disappear even with continued treatment, however, four cases of hepatocellular injury by verapamil have been proven by rechallenge. Periodic monitoring of liver function is prudent during verapamil therapy. Patients with atrial flutter or fibrillation and an accessory AV pathway (e.g. W-P-W or L-G-L syndromes) may develop increased antegrade conduction across the aberrant pathway bypassing the AV node, producing a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion, which has been used safely and effectively after ISOPTIN. Because of verapamil's effect on AV conduction and the SA node, 1° AV block and transient bradycardia may occur. High grade block, however, has been infrequently observed. Marked 1° or progressive 2° or 3° AV block requires a dosage reduction or, rarely, discontinuation and institution of appropriate therapy depending upon the clinical situation. Patients with hypertrophic cardiomyopathy (IHSS) received verapamil in doses up to 720 mg/day. It must be appreciated that this group of patients had a serious disease with a high mortality rate and that most were refractory or intolerant to propranolol. A variety of serious adverse effects were seen in this group of patients including sinus bradycardia, 2° AV block, sinus arrest, pulmonary edema and/or severe hypotension. Most adverse effects responded well to dose reduction and only rarely was verapamil discontinued. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacologic effects. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, close surveillance of vital signs and clinical status should be carried out. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patients should be carefully monitored to avoid over- or under-digitalization. ISOPTIN may have an additive effect on lowering blood pressure in patients receiving oral antihypertensive agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Clinical experience with the concomitant use of ISOPTIN and short- and long-acting nitrates suggest beneficial interaction without undesirable drug interactions. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. **Pregnancy Category C:** There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block. 3rd degree (0.8%), bradycardia HR < 50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%), elevations of liver enzymes have been reported (See *Warnings*.) The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: ecchymosis, bruising, gynecomastia, psychotic symptoms, confusion, paresthesia, insomnia, somnolence, equilibrium disorder, blurred vision, syncope, muscle cramp, shakiness, claudication, hair loss, macules, spotty menstruation. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in round, scored, film-coated tablets containing either 80 mg or 120 mg of verapamil hydrochloride and embossed with "ISOPTIN 80" or "ISOPTIN 120" on one side and with "KNOLL" on the reverse side. Revised August, 1984



**KNOLL PHARMACEUTICAL COMPANY**  
30 NORTH JEFFERSON ROAD, WHIPPANY, NEW JERSEY 07981

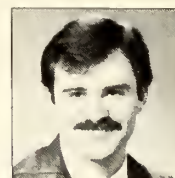
2406

**EMPLOYEES  
APPRECIATE  
THE PAYROLL  
SAVINGS PLAN.**

**JUST ASK THE  
PEOPLE AT THE  
BOEING COMPANY.**

"My folks gave me a Bond for my birthday every year. Now I can do the same for my kids."

—Vaughn Hale



"It's certainly a painless way to save. The money comes directly out of my paycheck every two weeks."

—Florence Perry



"This is one way I can support my government and save at the same time."

—Douglas Scribner



U.S. Savings Bonds now offer higher variable interest rates and a guaranteed return. Your employees will appreciate that. They'll also appreciate your giving them the easiest, surest way to save.

For more information, write to: Steven R. Mead, Executive Director, U.S. Savings Bonds Division, Department of the Treasury, Washington, DC 20226.



**U.S. SAVINGS BONDS**  
Paying Better Than Ever

A public service of this publication.





If you recognize  
Tad's father, you'll  
recognize the  
name of one  
of the largest life  
insurance companies  
in America.

Lincoln. It's a name  
you'll remember.

**B**enefits available to  
members of the Indiana  
State Medical Association  
and their employees  
through expanded ISMA  
group sponsored  
Lincoln National Life  
health insurance coverage:

#### **MEDICAL PLAN 1**

- 365 Days of Inpatient Hospital Care
- 100% payment semi-private or hospital ward room including the cost of blood
- 365 Days In-Hospital Medical Care
- Reasonable and Customary allowances for surgery, maternity, general anesthesia, medical visits, and radiation therapy
- \$500 Supplemental Accident
- Unlimited Major Medical Benefits

#### **MEDICAL PLAN 2**

- Comprehensive Major Medical expense protection—\$500 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 3**

- Comprehensive Major Medical expense protection—\$250 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 4**

- Low cost comprehensive Major Medical expense protection—\$2,000 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 5**

- Low cost plan that provides the same benefits as Medical Plan 3
- This plan includes several cost-containment features

The Lincoln National Life Insurance Company is most pleased to be underwriting the Group Medical and Dental Programs for the Indiana State Medical Association. Your benefit programs have been designed to provide the highest quality coverage and service at the lowest possible cost. A special claim paying unit has been established in our Indianapolis Group Benefits and Service Office to handle only the ISMA program. Should you have questions or problems, you may speak directly to your claim processor at 317-846-6211/800-692-6014. We look forward to serving your association and encourage your review of the programs and services being provided.

**F**or more information  
call or write:

James D. Townsend or Earl W. Williams  
Professional Account Representatives  
8900 Keystone Crossing, Suite 500  
Indianapolis, Indiana 46240  
(317) 846-7502 or (317) 844-3119  
1-800-428-7105 Toll Free Outside Indiana

Tom Martens  
Director, Health Insurance Administration  
Indiana State Medical Association  
3935 North Meridian Street  
Indianapolis, Indiana 46208  
(317) 926-4424  
1-800-382-1721

#### **NEW DENTAL PLAN**

- Reasonable and Customary allowances for necessary care and treatment for dental health
- \$1,500 Maximum Dental Benefit per person in a Calendar Year

#### **MEDICAL REIMBURSEMENT PLAN**

- Tax Deductible to the professional corporation
- Permissible to cover physicians and key employees only.

# Are D.O.s Real Doctors?

## Osteopathic Medicine: One of the Fastest Growing Health Professions

---

CATHY M. GARRIS  
Atlanta, Ga.

---

**A**LTHOUGH THERE ARE more than 22,000 osteopathic physicians practicing medicine in the United States, the D.O.—Doctor of Osteopathy—is probably one of the most misunderstood medical practitioners.

Founded in the late 1800s by Dr. Andrew T. Still, a traditionally trained M.D., osteopathic medicine was an alternative to the primitive practice of medicine that existed at that time.

Dr. Still believed the medical profession took too narrow a view, treating disease as a separate entity rather than considering the person as a whole unit. He believed there was an interdependency of the body's systems: circulatory, nervous and musculoskeletal. Eventually, his work in anatomy and related disciplines led him to the innovative approach to doctoring that became the osteopathic profession.

Based on the premise that the body's own natural antibodies, if stimulated, could help in the healing process, and that many diseases could be diagnosed by touching the skin and palpating certain areas of the body, Dr. Still's principles and practices resulted in the founding, in 1892, of the first college

of osteopathic medicine—the American School of Osteopathy, Kirksville, Missouri.

As osteopathic medicine flourished, research also continued into Dr. Still's theory of the body as an integrated unit in which no part functioned independently. Thus developed a system of diagnoses and therapy that, when employed in conjunction with standard medical procedures, proved highly beneficial in the treatment and prevention of disease. It also stressed the theory that musculoskeletal problems are often a cause of dysfunction in other body systems, and that manipulative procedures applied through specifically directed corrective forces helped tense muscles, tendons and connective tissues surrounding joints to relax. The resulting increase of muscle fiber length eased the tension of the proprioceptors, thus reducing sensory bombardment to the spinal cord. Reduction of this bombardment, in turn, would allow the entire body to return to a more normal homeostatic level.

It should be noted that, although osteopathic physicians find manipulative procedures very effective, they are considered only one of the many "tools of the trade" to be used in diagnosing and treating certain illness and disease.

Another important tenet of the osteopathic profession is the emphasis placed on primary care. Latest statistics indicate that D.O.s overwhelmingly (92%) choose to practice primary care, with some 87% choosing general practice.

Why is this? Many believe it is the emphasis placed on primary care early in their education and training. The



general practitioner is held in high esteem, and students in osteopathic medical schools are encouraged to develop themselves as generalists. D.O.s are trained, for the most part, in osteopathic hospitals, many of which are located in rural or small communities where their role models are usually primary care physicians.

Today, there are 15 colleges of osteopathic medicine, and the osteopathic profession is considered one of the fastest growing health professions. The number of D.O.s is expected to double within the next 10 years.

Education in schools of osteopathic medicine is similar to that of allopathic or M.D. schools. There is stiff competition for available seats each year, and most applicants must have an undergraduate degree strong in the

---

The author is Executive Director of the Georgia Osteopathic Medical Association; she is also Executive Director of the American Osteopathic College of Dermatology.



sciences. The Doctor of Osteopathy degree requires four academic years of study — two years devoted to anatomy, physiology, chemistry, pathology, microbiology, immunology and pharmacology, and two years to clinical subjects. Of course, inherent to all osteopathic study is the interrelationship of structure and function as reciprocal factors in health and disease. Structural factors and disease processes are stressed, and students are trained in osteopathic manipulative therapy and in medical, therapeutic and surgical procedures.

After completion of a one-year rotating internship, D.O.s may be licensed in all 50 states to practice medicine, surgery, and prescribe medication. Some states have dual licensing boards; however, in Indiana, the Medical Licensing Board, which

licenses ALL physicians, is composed of *both* D.O.s and M.D.s.

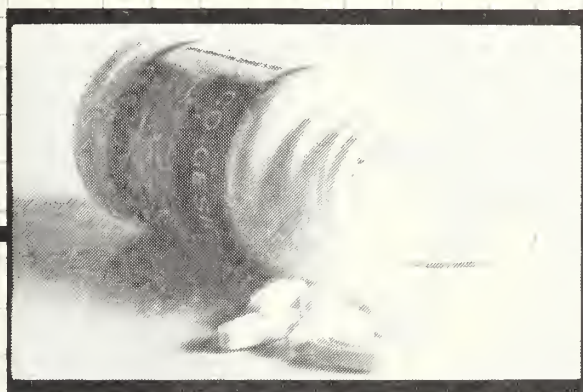
If the D.O. elects to specialize, there are more than 40 residency programs accredited by the American Osteopathic Association (which is approved by the U.S. Dept. of Education to accredit the education and training programs of the osteopathic profession). However, the rotating internship is felt to be essential in developing a broad-based clinical foundation for successful specialty skill acquisition during residency training as well as entrance into general practice. The internship must include three months rotation in general medicine, general surgery, and one month each in general practice, OB/GYN and pediatrics. The remaining three months are spent in various combinations. Again, because most D.O.s do not train in big-city universities,

they tend to feel more comfortable establishing a solo general practice in a rural or small community.

In summary, the D.O., like the M.D., has full practice rights in all 50 states. Doctors of Osteopathy practice in both osteopathic and allopathic hospitals, perform surgery, deliver babies, prescribe medication and utilize all modern-day therapies. They participate in third-party reimbursement, Medicare and Medicaid. Their education and training is comparable to the M.D. and they have positions of prominence in the armed forces and government health care facilities. In addition, they incorporate manipulative procedures in diagnosing and treating certain illnesses and disease. The majority tend to practice primary care in small/rural areas, with 87% choosing general practice.

# Co-Gesic<sup>®</sup>

(500 mg. Acetaminophen - 5 mg. Hydrocodone Bitartrate)



Proven  
Dependability



**CENTRAL PHARMACEUTICALS, INC.**

SEYMOUR, INDIANA 47274 USA

*Quality Pharmaceuticals Since 1904*



# Big Mouths Cause Malpractice Suits

## The Way I See It

---

EVELYN W. BRADFORD, J.D.  
Waynesboro, Pa.

---

**Many Cases Can Be  
Traced to a Colleague's  
Second-Guessing  
or to the Treating  
Doctor's Arrogance,  
This Attorney  
Has Found . . .**

**W**HOS TO BLAME for the medical-malpractice crisis? Incompetent doctors, say the lawyers. Greedy lawyers, say the doctors.

Doctors see themselves as beleaguered victims of our American legal system, while lawyers come on like white knights nobly protecting the citizenry from medical abuse. That's the way it was back in 1973, when I served on the professional staff of the HEW Secretary's Commission on Medical Malpractice. And that's the way it is today.

The truth of the matter, unfortunately, was buried in the verbiage of the commission's 1,016-page report, produced with the aid of \$2 million in federal funds. It's still lost in the myopic belligerence with which each side defends its position.

The truth is that although some medical malpractice does occur, the malpractice crisis wouldn't have assumed its present dimensions without the flood of frivolous suits filed every year. And for many of these, the medical profession has only itself to blame.

What triggers all those unfounded claims in the first place? The answer, simply and shockingly, is almost always a doctor. Sometimes the doctor who's been charged with malpractice is himself responsible for the patient's antagonistic reaction. Though innocent of medical wrongdoing, he may exhibit a lack of concern, an arrogant unwillingness to explain, or failure to deal kindly with a patient's disappointment over a less than perfect result. More often, however, a doctor who sees the patient later on sets things off, whether by direct negative comment, innuendo,

a raised eyebrow, or a meaningful sigh.

The scenario often runs something like this:

Doctor (looking at a patient's scar): "Oh, my!"

Patient, "What is it, Doctor?"

Doctor: "Nothing."

Patient: "Tell me, please. Did Dr. Jones do something wrong?"

Doctor: "Medical ethics forbid me to discuss this further."

Variations of this theme are many: "Who did that to you?" . . . "If you had been my patient, I would never have operated." . . . "You mean he gave you this to take *internally*?" . . . But whatever the variation, the damage is done. It's just a matter of time until the patient seeks legal assistance, full of righteous indignation and determined to "make that butcher pay for what he did!"

I heard stories based on this script over and over again in the hearings the malpractice commission held across the country. And when I recently pulled a batch of my own cases at random, I found more of the same.

I'd asked each prospective client, as I always do: "What makes you think you've been medically wronged and have grounds for a lawsuit?" In 10 cases out of 10, the answer involved a second-guessing doctor. And in seven of the 10 cases, I told my would-be client that he or she had no grounds for a suit. (One of the other cases was settled out of court, and the remaining two are pending.) Here are some samples:

A 70-year-old man, whose total hip replacement by Dr. A didn't leave him feeling like a 30-year-old, reported that Dr. B said the surgery should never have been done at all.

Copyright © 1986 and published by Medical Economics Company, Inc. at Oradell, N.J. 07649. Reprinted by permission of *Medical Economics* and of the author, a malpractice attorney based in Waynesboro, Pa., who represents both plaintiffs and defendants.

A 50-year-old man, whose debrided elbow still gave him pain, told me his family doctor felt he should have had a better result.

A woman in her 60s, whose grossly arthritic wrist was still grossly arthritic after a fracture had been repaired, said her family doctor just groaned when he saw her following the cast removal. No, he didn't say a word, but that was enough to show her what he thought.

A young woman who developed a skin cancer near the site where an earlier one had been removed told me a second dermatologist said that if the surgery had been done properly, the new lesion wouldn't have appeared.

A failure-to-thrive infant was categorized by a medical-center pediatric resident as being beyond help because the family's pediatrician hadn't sent the parents to the teaching center sooner.

That's the way it goes. And whether or not the second doctor was misunderstood by the would-be litigant, the fact remains that something in his words or actions triggered a malpractice claim.

Whereupon, enter the lawyers. Like physicians, they come in all sizes, shapes, and levels of competence. Unlike physicians, though, they usually are not well-endowed with medical knowledge. So when a new client appears with a heart-rending tale, the attorney responds with genuine sympathy and a sincere desire to right the wrong. Besides, it *is* how he makes a living.

In many cases, the battle lines are drawn and the malpractice suit is on. It doesn't matter now if the instigating physician alters what he said, denies he ever said it, or confirms it but refuses to testify against his colleague. The frustrated lawyer castigates the uncooperative doctor as part of the medical profession's conspiracy of silence. He files suit because the statute of limitations is hanging over his head, and he goes far afield for expert witnesses.

Expert testimony is big business these days. There are many organizations whose sole function is to provide expert medical opinions for lawyers handling malpractice cases. There are doctors with legal degrees who offer the same service and charge the same high prices. And then there's the academic hierarchy in medicine, whose members traditionally look down on ordinary practitioners and feel professionally secure in blasting any who don't measure up to their standards.

The bottom line is that expert testimony can be obtained by a persistent lawyer. It may be objective or it may be biased—but it can be had. And here again, members of the medical profession itself are helping to perpetuate the malpractice crisis.

I'm most emphatically *not* suggesting that any doctor should try to cover up for a colleague when he sees a patient who may have been the victim of actual malpractice. Neither am I suggesting that doctors should refuse to appear as expert witnesses for plaintiffs when the medical records indicate that malpractice did take place. But I *am* suggesting that discretion, common sense, good will, and rigorous concern for the truth on the part of physicians could keep a lot of frivolous malpractice suits from ever coming to court.

First of all, when so many of these suits are spawned by careless remarks, doctors should learn to bite their tongues. Why do they engage in this kind of Monday morning quarterbacking? Sometimes it's to direct a patient's ire away from themselves; sometimes it's out of sheer egotism; sometimes it's because of sincere disagreement in a field where medicine recognizes more than one point of view. No doctor can afford any of these indulgences unless he is ready and willing to repeat his statements in a courtroom under oath. In the horse-and-buggy era, it was considered undignified and unethical to denigrate a colleague's performance without serious cause. Today it's downright dangerous.

On the other hand, sometimes the

doctor who's the victim of an unfounded malpractice suit has brought it on himself by the way he deals with dissatisfied patients. They should always be regarded as potential litigants. Fortunately, they usually send out signals that are as easy to spot as fireflies in the dark. They don't show up regularly for post-op care, even when it was included in the surgical fee; they break appointments frequently and come in reluctantly; they argue about the size of their bills and put off paying; they complain constantly and attribute all their aches and pains to the procedure that was performed; they smile as rarely as an undertaker at a funeral.

When a physician notes these danger signals, he should respond promptly—before the patient actually files suit. Like it or not, he must explain, draw the patient's grievances out, try to rebuild the disintegrating doctor-patient relationship by demonstrating his caring and concern.

In my experience, most doctors meet anger with anger and refuse to make the effort to mend broken fences. "But it's humiliating," one senior surgeon protested when he consulted me after discovering that a disgruntled patient was going to see a lawyer, "and besides, I can't spare the time."

"It *is* humiliating in a way," I replied, "but believe me, it's even more humiliating to have to defend yourself before a jury, and that takes more time."

Going this extra mile is no sure-fire guarantee that the lawsuit threatening on the horizon will disappear. I can report from my own practice, however, that in all but one case the prescription worked.

Even when the patient goes away still angry and a lawsuit seems imminent, a courtroom battle can often be avoided. Here the medical community as a whole is passing up a chance to help.

Only a doctor can assess the merits of a potential malpractice claim. Only a doctor knows if a bad result could

have been prevented, can judge whether a complication was properly handled, can say with authority that a course of treatment did or did not meet accepted standards of care. Such important judgments should not be left to medical hired guns whose opinions may, in subtle ways at least, be influenced by the excessive fees they collect from the hungry lawyers who seek them out.

The medical community should assume the burden of giving honest, objective answers to the questions that arise in malpractice cases. Just as most medical societies these days have standing committees that hear and try to resolve patients' complaints about doctors' charges, so panels could be set up to give free evaluations of complaints about doctors' care. Their services should be available to disgruntled patients and also to attorneys; many young lawyers file suit on the basis of a doctor's loose talk because they can't afford the expense of a full-fledged investigation.

But would prospective plaintiffs and their attorneys have faith in the impartiality of these panels? I think so, if they were properly designed. Here's how I'd suggest going about it.

Each state's medical society should

establish a malpractice evaluation committee. Whenever a complaint about treatment was brought before the society, the committee chairman would assemble a panel of physicians who were board-certified in the appropriate specialty. They'd be drawn from across the state, excluding the community in which the alleged malpractice occurred. Their identities wouldn't be made public, and the defendant doctor wouldn't appear before them. They'd base their opinions solely on documents—patient charts, hospital records, with names and places blanked out.

If this system worked as well as I think it could, most frivolous malpractice suits would be nipped in the bud—and a great many meritorious ones would be settled out of court. Malpractice insurance carriers would be spared the cost of defending suits that should never have been filed, and this should go a long way toward halting the escalation of premiums.

The panels wouldn't get involved in arbitration. If the case did go to trial, their findings would not be introduced in court, nor would their members be allowed to appear as expert witnesses. So would-be plaintiffs and their attorneys would really have nothing to

lose by seeking the panel's evaluation.

Most lawyers aren't the avaricious cutthroats that many doctors think, any more than most doctors are the bungling incompetents that many lawyers believe them to be. The vast majority of attorneys wouldn't pursue a frivolous claim if they knew it was frivolous. The investment of money, time, and effort is too great, with no certainty of return because of the contingent nature of the fee. It's up to the medical profession to establish a mechanism whereby an honest attorney can get the honest answers he needs to advise his clients properly.

Of course, serious issues underlying the current malpractice crisis would still have to be addressed: What's wrong with the modern doctor-patient relationship? How can true incompetence be pinpointed? What should be done with and for incompetent doctors? How does one determine just compensation for the victim of medical error?

But while the search for answers to these questions goes on, doctors can take the few simple, practical steps I've described here to help bring the malpractice explosion under control.

## PHYSICIAN

Vacancy exists at the Fort Wayne VA Medical Center for a full-time Medical Officer of the Day to provide coverage during non-administrative hours. The Medical Center is located in a metropolitan area of 300,000 and serves a veteran population of 175,750. Excellent employment benefits including 30 days paid vacation, educational leave, excellent retirement, health insurance and life insurance programs. Salary range open.

Contact: Robert F. Green, M.D.  
Chief of Staff  
VA Medical Center  
1600 Randallia Drive  
Fort Wayne, IN 46805  
(219) 426-5431, Ext 311

*AN EQUAL OPPORTUNITY EMPLOYER*



**BROWN** THE BROWN PHARMACEUTICAL CO., INC.

2500 West Sixth Street, Los Angeles, CA 90057

For Full Prescribing Information, Please See PDR.



# **Android**<sup>®</sup> / 5<sup>Buccal</sup> / 10<sup>Oral</sup> / 25<sup>Oral</sup> mg. / mg. / mg.

Methyltestosterone U.S.P. Tablets

# **ANDROID**<sup>®</sup> / F

Fluoxymesterone U.S.P. Tablets, 10<sub>mg</sub>



# 1986 LEGISLATIVE SUMMARY

## Review of Short Session Finds Many Ups and Downs

---

JULIANNA M. NEWLAND  
Legislative Assistant  
Indiana State Medical Assn.

---

**T**HE LAWMAKERS have adjourned the 1986 Session of the Indiana General Assembly after tackling many complex issues usually reserved for the long session. In the area of health and medical issues, much of the lawmakers' time was spent on the issues of changes in Indiana's Determination of Need Law and the licensure of allied health practitioners.

At the request of the ISMA, five bills were introduced this Session:

- the Uniform Determination of Death Act;
- requiring a physician on all publicly-funded hospital boards;
- the reinstatement of the mandatory motorcycle helmet law;
- allowing those laboratories that currently are conducting the blood tests on infants to detect inborn errors of metabolism to continue to do so as a "designated lab"; and
- lowering the amount of blood-alcohol content for a drunk driving offense from .10% to .05%

The lawmakers were not enthusiastic about tackling the motorcycle helmet bill and the drunk driving bill in the Short Session because of the amount of controversy they would spark. The ISMA will work with other interested parties over the summer to plan a strategy for the passage of these proposals in the 1987 Session. The bill to require the State Board of Health to designate more than one laboratory to conduct the infant blood tests lost in a close committee vote of 5-5. The ISMA was successful in seeing the passage into law of the Uniform Deter-

mination of Death Act, which was signed by the governor March 3.

### Licensure of Allied Health Practitioners

Numerous bills were filed in this 1986 Session to grant licensure to clinical lab personnel, social workers, and massage therapists, to name a few. In addition, a bill was defeated that the ISMA opposed to establish an allied health screening panel. Another proposal to include perfusionists under the Medical Malpractice Act was opposed no less than three times by the ISMA.

### Physician Dispensing

HB 1235, which would restrict the ability of the physician to dispense legend drugs from the office, did not receive a hearing in the House Public Health Committee this Session. This was the same legislative proposal that was heard in this committee last year when it did not receive enough support to pass out of committee. HB 1110, which would establish a Triplicate Prescription Program for Schedule II drugs as a law enforcement tool for tracking illegal use of those drugs, was not heard in House committee.

### Smoking in Government Buildings

HB 1136, which would ban smoking in government buildings except in designated smoking areas, made it to Third Reading in the Indiana House, only to be defeated on a close vote of 49-51. A similar proposal did not make it out of House committee last year. HB 1136 received the support of the ISMA but was opposed by the Tobacco Institute.

### Medicaid PPO

A legislative proposal (SB 388) to require or authorize the Department of Public Welfare to have Medicaid recipients select a health care provider from a list of providers for certain categories of care was not heard in the Senate Health, Welfare and Aging

Committee. This proposal will be introduced in the 1987 Session. HB 1085, which makes numerous changes in the county welfare program and the Hospital Care for the Indigent Program, was passed into law by the lawmakers.

### Determination of Need Law

SB 438, which makes changes in Indiana's Determination of Need Law relating to long-term care beds, underwent major changes in the House Public Health Committee. The Commissioner of the State Board of Health came to committee with several major changes to the bill, including a provision to require several "high tech" medical procedures to be approved by the Health Commissioner. The provision later was deleted from the bill. SB 438 was passed into law with change in the Determination of Need Law.

### Organ Donation Procedures

HB 1118, dealing with anatomical gifts, has been signed into law by the governor. HB 1118 provides that when a person dies in a hospital (i.e., a person who has not already made provisions for the donation of an anatomical gift), the hospital administrator or designee is to inform the representative of the decedent of the procedure for an anatomical gift.

### AIDS Screening

HB 1059, dealing with various aspects of AIDS screening, was changed in the House Public Health Committee at the request of the bill's author. The bill would have required that all hospital patients and all marriage applicants be screened for the AIDS antibody, and that all blood and tissue be screened for AIDS. This change was requested after various health care providers objected to the blood screens; instead, they requested the formation of an AIDS study committee.

---

# DIGEST OF HEALTH & MEDICAL LAWS

1986 INDIANA GENERAL ASSEMBLY

---

Prepared by

Richard R. King, Julianna M. Newland, and Gregory P. Bowes of the Legislative Department,  
Indiana State Medical Association

3935 N. Meridian St. • Indianapolis, IN 46208 • (317) 925-7545 • 1-800-382-1721 (in Indiana only)



Dear Member of the Indiana State Medical Association:

The "short" 30-day session of the Indiana General Assembly has adjourned after having considered several health and medical proposals.

The Legislative Department of the Indiana State Medical Association has reviewed the recently-passed laws that have some affect on the practice of medicine in Indiana. These new laws are summarized for you in this "DIGEST OF HEALTH AND MEDICAL LAWS 1986 INDIANA GENERAL ASSEMBLY." The new laws are listed under several subject matter headings for easy reference.

If you should have any questions or would like further information on a new law, please contact the Legislative Department of the ISMA at 1-800-382-1721 or 317/925-7545. Thank you.

Sincerely,

Edward L. Langston, M.D.  
Chairman  
Commission on Legislation

## Alcoholic Beverages

● SEA 85 — provides that a person may not be liable for the actions of an intoxicated person to whom he has furnished an alcoholic beverage unless the intoxicated person was visibly intoxicated at the time the beverage was furnished.

This Act takes effect April 1, 1986.

● SEA 168 — increases from a Class C infraction to a Class C misdemeanor the penalty for a minor to be in a tavern or bar;

— gives alcoholic beverage permit holders certain defenses to the charge of selling alcoholic beverages to a minor.

This Act takes effect September 1, 1986.

## Anatomical Gifts

● HEA 1118 — provides that when a person dies in a hospital who has not already made provisions for an anatomical gift, the hospital administrator or a designee shall inform the representative of the decedent of the procedures available for the making of an anatomical gift;

— provides that a physician is to determine that the individual's body is suitable for a gift;

— when the representative of the decedent is informed of the procedures for making a gift, this must be noted in the decedent's medical record.

This Act takes effect September 1, 1986.

## Children and Child Care

● SEA 124 — separates the definition of "day nursery" into two groups: "day care centers" and "day care ministries";

— specifies that "day care ministries", which provide day care as an extension of a church or religious ministry by definition, need not be licensed by the State;

— requires the parents of children enrolled in day care ministries to show proof of childhood immunizations unless the family objects on religious grounds.

This Act takes effect September 1, 1986.

● SEA 125 — allows unscheduled visits at day care centers by a custodial parent or guardian;

— allows the board of county commissioners to appoint the director of a county children's home, who shall serve at the board's will.

The section allowing unscheduled visits takes effect immediately. The rest of the Act takes effect September 1, 1986.

● SEA 126 — requires each day care center operator to obtain a criminal history affidavit from each prospective employee during the application process which would state that the prospective employee had never been arrested for or convicted of crimes such as rape, child molesting, or child exploitation;

— requires the Department of Public Welfare to maintain a list of all licensed day care centers.

This Act takes effect September 1, 1986.

● SEA 201 — requires each school corporation to conduct an annual vision test of all children in kindergarten or

the first grade using the modified clinical technique;

— allows a school corporation to obtain a waiver of this requirement from the Superintendent of Public Instruction;

— requires the Department of Education to conduct a study of the modified clinical technique by consulting with eye care professionals and report to the General Assembly by November 1, 1986.

The section requiring the study takes effect immediately. The rest of the bill takes effect July 1, 1987.

● SEA 470 — allows a court to admit testimony of a child under age ten that is shown by closed circuit television or videotape in child abuse or neglect trials.

This Act takes effect September 1, 1986.

## Controlled Substances

● SEA 18 — makes it a Class D felony to sell or transfer any substance, which is not a controlled substance, by making express or implied representations that the substance is a controlled substance;

— makes it a Class C felony to manufacture, advertise, or distribute a substance which could be sold as a "look alike" drug described just above (excepting those substances used in legitimate medical practice as placebos);

— strengthens the marijuana paraphernalia law to include as a Class D felony those instances where a person offers for sale items designed or marketed as tools to ingest, prepare, or manufacture marijuana.

This Act takes effect September 1, 1986.

● SEA 19 — makes it a Class D felony to obtain a prescription for a controlled substance by use of misrepresentation of patient information such as through a false name or patient record;

— makes it a Class D felony to alter or forge prescription pads or forms.

This Act takes effect September 1, 1986.

● SEA 296 — allows a pharmacist to honor out of state prescriptions after taking reasonable steps to determine whether the prescription was issued in compliance with that state's laws;

— changes Alfentanil (9737) from a Schedule I to a Schedule II drug;

— provides that a Board of Pharmacy registration to dispense controlled substances expires whenever a practitioner's license as a practitioner expires.

This Act takes effect May 1, 1986.

## Emergency Medical Care

● HEA 1153 — defines "emergency medical technician" as an individual who is certified to provide emergency medical care at the scene of an accident, illness, or during transport;

— defines "emergency medical care" as: assessment of emergency patients; administration of oxygen; utilization of mechanical breathing devices; application of anti-shock trousers; performance of cardiopulmonary resuscitation; application of dressings and bandage materials; application

of splinting and immobilization devices; utilization of lifting and moving devices to ensure safe transport; and other procedures authorized by the Indiana Emergency Medical Services Commission. Emergency medical care does not include invasive medical care techniques or advanced life support;

- provides that income from civil penalties imposed by the commission shall be deposited in the Emergency Medical Services Education Fund;

- provides that the scope of advanced life support is not limited by the provisions of this law.

This Act takes effect April 1, 1986.

## Handicapped Persons

- SEA 22 — sets up the Birth Problems Registry;

- requires all physicians, hospitals, and nurse midwives to report all birth problems, including birth defects, stillbirths, and low birth weight, to the State Board of Health beginning January 1, 1987;

- requires the State Board of Health to charge a Birth Problems Registry fee of two dollars (\$2) for each search of the records for a birth certificate, with the amount collected to be deposited in the Birth Problems Registry Fund;

- provides civil and criminal immunity to persons who report to the Birth Problems Registry as required;

- requires all physicians and hospitals in Indiana to report each confirmed case of AIDS to the State Board of Health;
- requires the Indiana School for the Deaf and the Indiana School for the Blind to provide training for multiple handicapped students;

- allows the State Board of Health to establish a deaf services coordinating and referral agency;

- requires the Indiana Rehabilitation Services Agency to allow blind vendors to operate vending services in government owned, leased, or operated buildings where possible. The sections dealing with AIDS and the Birth Problems Registry in the Act take effect July 1, 1986. The sections dealing with multiple handicapped students take effect September 1, 1986. The section dealing with blind vendors takes effect April 1, 1986.

- SEA 24 — requires the Commission for the Handicapped to develop a plan to coordinate and integrate state, local, and private efforts to provide services to handicapped and multiple handicapped individuals;

- creates a Preventive Health and Handicap Services Coordination Study Commission which would study the causes of diseases, handicapping conditions, and health problems relating to prenatal care; sexual and physical abuse of children; and preventable accidents and diseases; and advise the Commission on the Handicapped and report its findings to the General Assembly.

The sections dealing with the Commission on the Handicapped take effect July 1, 1986. The section dealing with the Preventive Health and Handicap Services Coordinating Study Commission takes effect January 1, 1987.

## Hospices

- HEA 1131 — provides for hospice program provider cer-

tification procedures under the State Board of Health;

- certification of a provider expires one year after the date of issuance;

- provides that the State Board of Health shall charge a annual certification fee of \$100.00 for each provider certified;

- establishes procedures for the suspension/revocation of a certification;

- provides that in order to obtain certification, an applicant must meet certain criteria, one being that an interdisciplinary team must provide hospice program care with the medical care under the direction of a physician. The interdisciplinary team must include, at a minimum, the patient's attending physician and personnel of the hospice program including mental health professionals, pharmaceutical services, and allied health services;

- establishes a Hospice Program Rules Advisory Committee to consult with the State Board of Health in rule development. The committee consists of representatives of: the State Board of Health, a hospice home health care program, an inpatient hospice program, a hospice program medical director, a registered nurse from a hospice program, the insurance industry, and a family member of a hospice program recipient;

- provides that the rules are to be adopted by March 1987.

This Act takes effect July 1, 1986.

## Hospitals

- HEA 1096 — allows the board of directors of a county hospital to authorize revenue bonds for the cost of building renovating/acquiring a building at fixed or variable rates of interest;

- provides that variable rates of interest and frequency of payments shall be determined in accordance with the procedures of the board under which the bonds are issued. Bonds bearing a variable rate of interest may be converted to a fixed rate as in the manner set forth in the resolution under which the bonds are issued;

- provides that bonds bearing a variable rate of interest shall be awarded to the bidder offering the best bid in the judgment of the board;

- sets out procedures for the public and private sale of bonds where the aggregate principal amount to be issued exceeds \$10 million.

This Act takes effect immediately.

- SEA 25 — includes tuberculosis hospitals in the list of participating hospitals protected under the Hospital Bonding Authority.

This Act takes effect immediately.

- SEA 222 — changes the name of the Hospital Equipment Financing Authority to the Health Facility Financing Authority.

This Act takes effect immediately.

- SEA 438 — directs the State Board of Health to identify and assess the health needs of the citizens and communities of Indiana and report annually to the governor and the General Assembly;

- changes the determination of need law to:



- review only capital expenditures and purchases of major medical equipment of \$1,000,000 or more;
  - provide that a determination of need may not be made for an increase in bed capacity if the bed utilization rate is 90% or less;
  - provide that a determination of need may not be made for a capital expenditure if the utilization rate is 84% or less;
  - allow each hospital to convert fifteen (15) beds in 1986, and fifteen (15) beds in 1987 to long term care beds (but not beds for intermediate care for the mentally retarded);
  - changes the hospital financial disclosure law to include data on the average charge per discharge by patient diagnosis, daily room rates, and the number of primary surgical procedures;
  - directs the State Board of Health to publish annually a consumer guide highlighting the data collected under the hospital financial disclosure law.
- This Act takes effect July 1, 1986.

## Insurance

- HEA 1121 — allows a public employer to provide group health insurance for retired employees or their spouses or to an employee who is on leave without pay for a longer period than 90 days;
  - provides that the state may pay part of the cost of self-insurance or prepaid health care delivery plans for its employees.
- This Act takes effect June 30, 1986.
- HEA 1432 — amends the law dealing with group accident and sickness insurance policies to stipulate that if the policy provides that hospital or medical expense coverage of a dependent child of a group member terminates upon the child's attainment of the limiting age for dependent children, the hospital/medical coverage does not terminate while the child is incapable of self-sustaining employment because of mental retardation and is chiefly dependent upon the group member for support;
  - proof of the child's incapacity may be required to be furnished to the insurer by the group member within 120 days of the child's attainment of the limiting age at two year intervals thereafter.
- This Act takes effect immediately.

## Licensure/Certification

- HEA 1314 — adds a practicing hospital pharmacist to the Indiana Board of Pharmacy;
  - adds podiatrists and chiropractors to the list of those licensed health care providers (physician, dentist) who currently can refer patients to a physical therapist.
- The pharmacy board provision of this Act takes effect immediately.
- The physical therapy section of this Act takes effect September 1, 1986.

- SEA 209 — allows physical therapists to set up professional corporations;
  - allows accountants with experience teaching accounting at certain institutions to fulfill the experience requirements to become a Certified Public Accountant;
  - allows podiatrists to delegate tasks to physical therapists;
  - adds a consumer member to the Physical Therapy Committee;
  - allows other licensed, certified, or registered health professionals to perform acts within their scope of practice that might be construed as the practice of physical therapy;
  - allows persons to use emergency first aid techniques that might be construed as the practice of physical therapy;
  - gives the Physical Therapy Committee authority to determine the qualifications for licensure, certification, and discipline of physical therapists;
  - allows persons to appeal adverse decisions of the Physical Therapy Committee to the Medical Licensing Board;
  - allows the Physical Therapy Committee to recommend rules for adoption to the Medical Licensing Board, which retains final rule making authority;
  - allows the Physical Therapy Committee to consider disciplinary actions of other states against a physical therapist when considering disciplinary actions in Indiana.
- This Act takes effect September 1, 1986.

- SEA 354 — includes licensed nurse midwives in the list of health care providers protected by the Medical Malpractice Act;
  - requires prepaid health care delivery plans to obtain a certificate of authority from the Department of Insurance;
  - raises the minimum capitalization requirements for prepaid health care delivery plans;
  - requires Department of Insurance approval before more than ten percent of the ownership stock of a prepaid health care delivery plan can be transferred.
- The section dealing with nurse midwives takes effect April 1, 1986. The sections dealing with certificates of authority and stock transfer approval take effect September 1, 1986. The section dealing with minimum capitalization takes effect January 1, 1987.

## Mental Health

- HEA 1077 — removes the references to "insanity," "imbicility," "idiocy," "habitual drunkenness or drug addiction" and adds "medical incapacity," "mental retardation," and "alcoholism or addiction to narcotics or dangerous drugs" to the provisions for consent to medical or surgical treatment for incompetent patients;
- provides that the superintendent of a facility for the mentally ill may consent to medical or surgical treatment of a patient at the facility if the superintendent and the patient's treating physician determine that the patient is incompetent to give informed consent even though the patient has never been so adjudicated by a court and if the treatment is medically necessary.

## Peer Review

- HEA 1179 — adds community mental health centers to the list of professional health care providers listed under the provisions for peer review committees (privileged communications, etc.)

This Act takes effect September 1, 1986.

## Public Welfare/HCI (Hospital Care for the Indigent)

- HEA 1079 — requires each applicant for poor relief to consent to a disclosure of information including information from the state/county public welfare department relating to medical and medication costs and hospital costs.

This Act takes effect September 1, 1986.

- HEA 1085 — concerns the Hospital Care for the Indigent Program and county welfare departments;

- provides that an optometrist may conduct a test to determine if a person is blind (deletes the provision that such eye exam shall be made preferably by an ophthalmologist, but where none is available, by an optometrist);

- abolishes the county boards of public welfare, effective July 1, 1986. The administrator of the State Department of Public Welfare shall appoint a county director of public welfare in each county;

- transfers various powers from the county board of public welfare to the county department of public welfare;

- establishes a county welfare administration fund to be funded through a property tax levy, bank taxes, savings and loan association taxes, production credit association taxes, and motor vehicle excise taxes. This tax shall be imposed annually by the county council according to a formula based on the annual average of county obligations for administration of the county welfare departments in 1984, 1985, and 1986. Growth in these levies would be limited to the statewide average assessed value growth quotient (effective July 1, 1986);

- the state would assume financial responsibility for administrative costs for welfare not met by the administrative levy;

- defines the terms for compensation under the Hospital Care for the Indigent Program as care that is provided in a hospital in Indiana that was necessitated after the onset of a medical condition that manifested itself by symptoms of sufficient severity that the absence of immediate medical attention would probably result in placing the person's life in jeopardy, serious impairment to bodily functions, or serious dysfunction of any bodily organ part. A qualified resident is eligible for assistance to pay for any part of the cost of care that is a direct consequence of the medical condition that necessitated the emergency care;

- establishes procedures for the signing of an application for assistance if the recipient is medically unable to sign. The patient may file an application directly with the county department of public welfare of the county in which the hospital providing care is located if the application is filed within 30 days of the admission to the hospital. Reimbursement for the costs incurred in providing care to an eligible

person may only be made to the providers of the care;  
— provides that the costs of medical or hospital care and transportation shall be paid by the state;  
— hospital claims would be submitted to the HCI fund that funded and paid out at two-thirds of the eligible claim. At the end of the fiscal year, out of the remaining monies, hospitals would be paid pro rata shares. The state Hospital Care for the Indigent Fund consists of the money transferred to the fund from the county hospital care for the indigent fund, and contributions, and any appropriations from the General Assembly. The General Assembly is not obligated to appropriate money to this fund;

- provides that the State Department of Public Welfare, the Department of Mental Health, and others shall adopt rules to provide for review and approval of services paid, establishing limitations consistent with medical necessity on the duration of services to be provided, specify the amount/method of reimbursement for services, and specify conditions for denial of payment;

- provides that the State Department of Public Welfare applicants/recipients of assistance, insurers, and persons against whom applicants and recipients have claims have the same rights and obligations with respect to HCI;

- provides that a hospital, physician, or agent/employee thereof that provides services in good faith under this program is immune from liability to the extent that liability attributable to patient transfer;

- provides that the State Department of Public Welfare may not require a county to pay for hospital care for the indigent that was provided before January 1, 1986;

- from July 1, 1986, through December 1, 1987, the State Department of Public Welfare shall adopt income eligibility standards for the HCI Program as follows:

HOUSEHOLD SIZE	MAXIMUM MONTHLY INCOME
1	\$188.40
2	\$283.20
3	\$377.40
4	\$471.60
each additional household member	\$ + 94.20

- HEA 1168 — provides that the Department of Public Welfare through its division for services for crippled children shall extend the services to persons with cystic fibrosis who are 21 or older with the services extended under the same criteria for those under 21 years of age.

This Act takes effect July 1, 1986.

- SEA 233 — allows the Department of Public Welfare to adopt rules to extend assistance to crippled children past the age of 21.

This Act takes effect immediately.

## Uniform Determination of Death Act

- SEA 282 — enacts the Uniform Determination of Death Act, which states:

"Only an individual who has sustained either:



- (1) irreversible cessation of circulatory and respiratory functions; or
  - (2) irreversible cessation of all functions of the entire brain, including the brain stem;
- dead. A determination of death must be made in accordance with accepted medical standards."
- This Act takes effect immediately.

## Other

- HEA 1010 — provides that a marriage license may not be issued to an applicant who is afflicted with a transmissible disease or is under the influence of alcohol or a narcotic drug;
  - requires marriage applicants under age 60 to be examined by a physician to diagnose syphilis and the female applicant must also be tested for an immunological response to rubella. Applicants may object to these tests on religious grounds;
  - provides that a physician who conducts an examination for rubella shall explain the significance of the results of the test for rubella;
  - a written report from the physician must accompany the application for the marriage license. Each physician's report must also include a statement from the laboratory of the diagnostic results;
  - a physician who knowingly submits false information under these provisions commits a Class D felony.

This Act takes effect immediately.
- HEA 1011 — provides that a marriage license may not be issued to an individual who is afflicted with a venereal disease;
  - provides that standard serological tests to determine whether a person is afflicted with syphilis for purposes of issuing a marriage license must be conducted in a laboratory approved by the State Board of Health.

This Act takes effect September 1, 1986.
- HEA 1046 — provides that when the place of a criminal trial would require the choice between or among counties, the coroner and law enforcement officers of the county where the offense was discovered have jurisdiction to investigate the offense;
  - provides that this may be modified by agreement among the prosecuting attorneys of the counties involved.

This Act takes effect September 1, 1986.
- HEA 1052 — extends the Agent Orange Advisory Committee until June 30, 1987.
 

This Act takes effect June 1, 1986.
- HEA 1098 — adds psychologists endorsed by the Indiana State Board of Examiners in Psychology as health service providers in psychology (instead of clinical psychologists) to the list of court-appointed providers that may examine the defendant when an insanity defense is filed in a criminal case.
 

This Act takes effect immediately.
- HEA 1120 — provides that the personal property and fixtures of historic value located in the Old Pathology Building and the Dead House at Central State shall be transferred to the Indiana Medical History Museum;

- provides that the Indiana Medical History Museum, Inc., shall use real estate and improvements for public charitable, educational, scientific, and general museum purposes. The lease may not exceed four years at a rental of \$1.00 per year. The state shall enter into a lease with Indiana Medical History Museum, Inc., at the sole option of the museum at the expiration of the four year lease. This lease must be for 99 years at a rental rate of \$1.00 per year.
 

This Act takes effect immediately.
- HEA 1133 — provides that a person who, with intent to defraud, makes a false/fraudulent statement in applying to a local health officer or to the state registrar for a certified copy of a birth certificate or in applying to the state registrar for permission to inspect public birth records commits a Class A misdemeanor;
  - provides that a person who alters, counterfeits, or mutilates a certified copy of a birth certificate issued by a local health officer/state registrar, or who uses an altered/counterfeit/mutilated certified copy of a birth certificate commits a Class A misdemeanor.

This Act takes effect immediately.
- HEA 1174 — extends the Addiction Services Advisory Council (commission) until June 30, 1987.
 

This Act takes effect May 1, 1986.
- HEA 1244 — provides that the procedures for burial of persons under the jurisdiction of the township trustee do not apply if the county coroner assumes jurisdiction of the unclaimed body;
  - provides that an autopsy need not be performed if two physicians who have made separate examinations of the decedent certify the same cause of death in an affidavit within 24 hours after death. These affidavits shall be filed with the circuit court clerk. Other factors that must be met in order for the autopsy not to be performed include having the decedent's spouse, child, parent, brother, or sister request that the autopsy not be performed; and having two or more witnesses corroborate the circumstances surrounding the death;
  - provides that in counties having a population of 400,000 or more the coroner may order the burial/cremation of an unclaimed body left in the coroner's custody. If the deceased died without leaving money to defray the funeral expenses, the coroner may contract with a funeral director to dispose of the body with such expenses to be paid by the county auditor.

This Act takes effect September 1, 1986.
- HEA 1291 — establishes a Home Health Care Study Commission to study home and community based services for persons requiring home health care;
  - provides that the commission is composed of 4 legislators and representatives of: the State Board of Health, Department on Aging and Community Services, public or private organizations that are involved in home health care services, State Department of Public Welfare, a statewide senior citizen organization, and the Indiana Association of Home Health Agencies;
  - the commission is to report to the Indiana General Assembly before December 1, 1986, on how to provide a unified comprehensive statewide home care services system for the elderly and the appropriate funding.

This Act takes effect April 1, 1986.



● SEA 48 — creates a Commission on Autism, which shall study the service delivery system for autistic individuals and develop a comprehensive plan for services for autistic persons.

This Act takes effect immediately.

● SEA 81 — removes the requirement that the State Board of Health inspect radiation machines at least once every two years. (NOTE: The State Board of Health retains its authority to inspect these machines as often as it deems necessary by Rule.)

This Act takes effect September 1, 1986.

● SEA 178 — allows the State Health Commissioner to practice medicine without compensation so long as it does not interfere with his duties as Commissioner;

— holds the State harmless for any acts done individually by the Commissioner under this law.

This Act takes effect September 1, 1986.

● SEA 271 — creates an Administrative Rules Oversight Committee consisting of eight members of the General Assembly;

— allows the Administrative Rules Oversight Committee to review actions or inactions of any Indiana administrative agency and recommend that any rule be modified, repealed, or adopted;

— requires the State Board of Accounts to conduct examinations of, among others, public hospitals.

The sections dealing with the Administrative Rules Oversight Committee take effect immediately. The section dealing with State Board of Accounts examinations takes effect September 1, 1986.

● SEA 329 — allows the boxing commission to assign two or three judges to attend a boxing match.

This Act takes effect September 1, 1986.

● SEA 379 — transfers \$201,000 from the community mental retardation center in Batesville to the sheltered workshop in Madison.

This Act takes effect immediately.

● SEA 393 — allows courts in civil actions to award attorney fees to the prevailing party if they find that the action or defense was frivolous, unreasonable, groundless, or litigated in bad faith.

This Act takes effect September 1, 1986.

● SEA 394 — allows "collateral source" evidence, other than evidence of life insurance benefits, payments made by a governmental agency or subdivision, benefits received from the plaintiff's family, or tax consequences, to be admissible in civil actions.

This Act affects all actions accruing after August 31, 1986.

● SEA 430 — expands the Interdepartmental Board for Coordination of Human Service Programs from seven to nine members;

— directs the Interdepartmental Board for Coordination of Human Service Programs to study the need and availability of services for children and adolescents with a primary diagnosis of emotional disturbance.

This Act takes effect immediately.

## Legislative Morgue

Each session of the Indiana General Assembly has its share of bills that are filed for consideration but which fail to be passed into law. Some of these bills never see the light of day. There were numerous bills in the health/medical area that are now resting in the Legislative Morgue. Several of these bills were not supported by the ISMA's Commission on Health Legislation. Below is a brief summary of some of those bills.

— SB 57 would establish licensure of clinical laboratory personnel

— SB 101 would require the State Department of Public Welfare to pay for the hospital care provided to indigents who are injured during the operation of a motor vehicle

— SB 146 would establish an allied health screening committee

— SB 357 would require the State Board of Health to establish a health care consumer information and ombudsman's office

— SB 377 would establish the State Board of Examiners in Social Work

— SB 388 would require/authorize the State Department of Public Welfare to require Medicaid recipients to select a health care provider from a list of providers for certain categories of providers

— SB 448 would establish the Indiana Hospital Cost Containment Commission

— SB 473 would license massage therapists

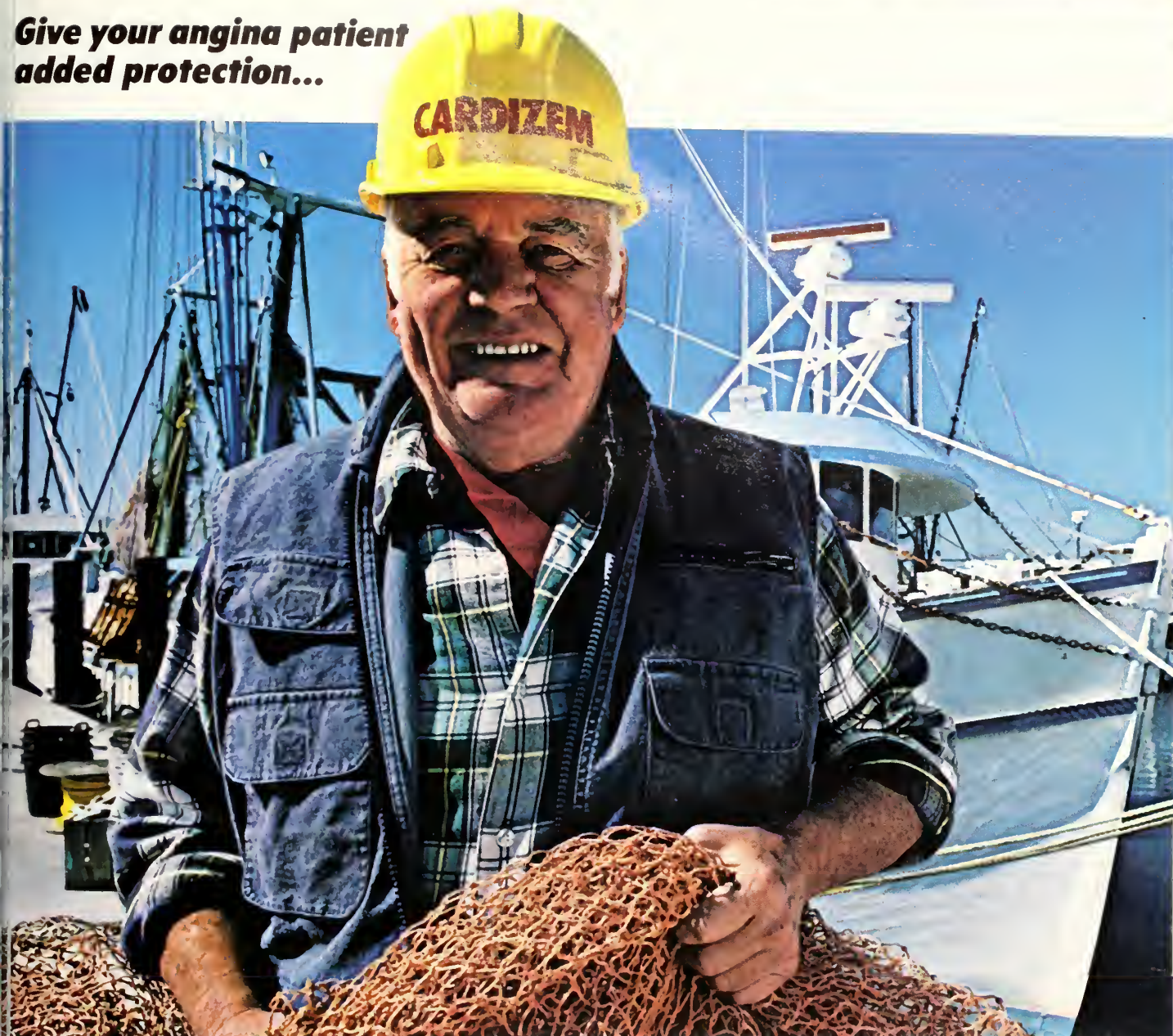
— HB 1092 would repeal the safety belt law

— HB 1110 would establish a Triplicate Prescription Program for Schedule II drugs

— HB 1235 would restrict the ability of the physician to dispense legend drugs from the office.



**Give your angina patient  
added protection...**



# **CARDIZEM<sup>®</sup>: FEWER SIDE EFFECTS**

diltiazem HCl/Marion

- **The lowest incidence of side effects among the calcium channel blockers<sup>1</sup>**
- **An exceptionally safe choice for angina patients with coexisting hypertension, diabetes, asthma, or COPD<sup>1-3</sup>**
- **Proven efficacy when used alone in angina<sup>1,4-6</sup>**
- **Compatible with both beta-blockers and nitrates<sup>7</sup>**

Please see brief summary of prescribing information on the next page.





# CARDIZEM<sup>®</sup> 60 mg tid or qid

## diltiazem HCl/Marion

### FEWER SIDE EFFECTS IN ANTIANGINAL THERAPY

#### BRIEF SUMMARY

CARDIZEM<sup>®</sup> (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist).

#### INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST segment elevation occurring during attacks).

2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

#### CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker and (3) patients with hypotension (less than 90 mm Hg systolic).

#### WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.

2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.

3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.

4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes (See PRECAUTIONS AND ADVERSE REACTIONS).

#### PRECAUTIONS

**General.** CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

**Drug Interaction.** Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers concomitantly with CARDIZEM. (See WARNINGS).

Uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually safe. Available data are not sufficient, however, to predict the effect of this combination on treatment, particularly in patients with left bundle branch block or cardiac conduction abnormalities. In healthy

volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

**Carcinogenesis, Mutagenesis, Impairment of Fertility.** A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in *in vitro* bacterial tests. No intrinsic effect on fertility was observed in rats.

**Pregnancy.** Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women, therefore, use CARDIZEM (diltiazem hydrochloride) in pregnant women only if the potential benefit justifies the potential risk to the fetus.

**Nursing Mothers.** It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

**Pediatric Use.** Safety and effectiveness in children have not been established.

#### ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence:

Cardiovascular	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope
Nervous System	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia
Gastrointestinal	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH
Dermatologic	Pruritus, pelecchia, urticaria, photosensitivity
Other	Polyuria, nocturia

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme, leukopenia, and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

#### OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

**Bradycardia.** Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.

**High-Degree AV Block.**

**Cardiac Failure.**

**Hypotension.**

Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.

Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics. Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral LD<sub>50</sub>'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD<sub>50</sub>'s in these species were 60 and 38 mg/kg, respectively. The oral LD<sub>50</sub> in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

#### DOSAGE AND ADMINISTRATION

**Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm.** Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

#### Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy** — CARDIZEM may be safely co-administered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS AND PRECAUTIONS.)

#### HOW SUPPLIED

CARDIZEM 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Packs of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Packs of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other. Issued 4/1/84.

See complete Professional Use Information before prescribing.

064275

**References:** 1. *Physicians' Desk Reference*<sup>®</sup>, ed 39, Oradell, NJ, Medical Economics Company Inc, 1985. 2. Cohn PF, Braunwald E. Chronic ischemic heart disease, in Braunwald E (ed). *Heart Disease: A Textbook of Cardiovascular Medicine*, ed 2, Philadelphia, WB Saunders Co, 1984, chap 39. 3. Schroeder JS. Calcium and beta blockers in ischemic heart disease. When to use which. *Mod Med* 1982; 50(Sep):94-116. 4. Subramanian VB. Comparative evaluation of four calcium antagonists and propranolol with placebo in patients with chronic stable angina. *Cardiovasc Rev Rep* 1984; 5:91-104. 5. Schroeder JS, Feldman RL, Giles TO, et al. Multicentric controlled trial of diltiazem for Prinzmetal's angina. *Am J Med* 1982; 72:227-231. 6. Weiner OA, McCabe CH, Cutler SS, et al. The efficacy and safety of high-dose verapamil and diltiazem in the long-term treatment of stable exertional angina. *Clin Cardiol* 1985; 7:648-653. 7. Shapiro W. Calcium channel blockers. Actions on the heart and uses in ischemic heart disease. *Consultant* 1984; 24(Dec):150-159.

Another patient benefit product from

**MARION**  
PHARMACEUTICAL DIVISION  
LABORATORIES, INC.  
KANSAS CITY, MO 64137





## **“...Your financial security specialists are on call”**

American Physicians Life believes a physician's financial security deserves specialized attention. That's why our products and services are designed with the doctor in mind. Our comprehensive portfolio of services, including life insurance, professional disability income coverage, qualified plans and tax-deferred annuities, is customized to meet your personal financial planning needs as well as those of your professional corporation.

Let American Physicians Life secure your financial planning program—that's our specialty!

For more information contact:  
Williams/Townsend Associates  
8900 Keystone Crossing, Suite 500  
Indianapolis, Indiana 46240  
(317) 844-3119

Endorsed by the  
Indiana State Medical Association



**AMERICAN PHYSICIANS LIFE**

Bates Drive, P.O. Box 281  
Pickerington, Ohio 43147  
Telephone (614) 864-3900

Toll-free in Ohio, 1-800-282-7515  
Toll-free outside Ohio, 1-800-742-1275

# IS MEDICARE BANKRUPT?

---

DONALD F. FOY  
Indianapolis

---

**A**CCORDING TO A recently released study conducted by the National Center for Policy Analysis entitled, "Solving the Problem of Medicare," the Program is bankrupt. At the moment a small surplus exists in Medicare's Hospital Insurance Trust Fund. However, by any reasonable prediction, that surplus will vanish in a few short years as expenditures quickly outpace tax revenues. The NCPA predicts that between now and 1995 the cumulative deficit in the Trust Fund will be \$400 billion.

Currently Medicare is making implicit promises to millions of working men and women who are paying taxes into the system. The promise is that in return for the taxes these workers are paying, government will pay for certain medical expenses during their retirement years. Yet it is not at all certain that this promise can ever be fulfilled.

A little known fact about Medicare is that the amount which today's beneficiaries have paid into the Program in taxes is only a small fraction of the amount they are receiving and can expect to receive back in the form of benefits. For example, a male worker earning the median income who reaches age 65 today will receive more benefits in two years from Medicare than he paid in taxes over his entire working life. For those who are on the receiving end, the Program has been a bonanza. Medicare beneficiaries are receiving far more in benefits than they

ever paid in taxes. In 1982 spending per beneficiary under Part A was \$1,364 and net spending under Part B was \$455.

When the Medicare Program was enacted in 1965, it was part of the "War on Poverty." It has been viewed by some as a poverty program ever since. This perception is incorrect, however. Not only does Medicare not take from the rich and give to the poor; if anything it does the reverse. On the average, people over 65 have considerably more wealth than those under 65. It is interesting to note that there are 254,000 millionaires currently covered by Medicare.

There is no question that Medicare is unfair to the young. A male worker earning the median income who reaches age 65 today can expect to receive \$23,327 more in benefits than he paid in taxes. If he has a dependent spouse the couple together will receive \$56,982 more in benefits than they paid in taxes.

The enormous benefits received by today's Medicare beneficiaries are made possible by the taxes being paid into the system by the working population. Yet young workers who are paying Medicare taxes will never receive anything like the "deal" the elderly are receiving today. In fact, most young workers entering the labor force right now will pay considerably more into Medicare than they can expect to receive in benefits. And each new generation of workers can expect to pay more in taxes than they will receive in benefits. The next generation of workers might very well ask why they should support a system which they never consented to and from which they can never realize a positive gain?

Like Social Security, Medicare is viewed by most people as a govern-

ment insurance plan. This image is encouraged by numerous publications of the Department of HHS and by the public pronouncements of leading politicians and bureaucrats.

Payroll taxes which fund Medicare are called "contributions." The surplus of taxes over expenditures is said to accumulate in a "Trust Fund." People are led to believe that the benefits paid out by Medicare are in return for contributions made during their working years. If officials of a private health insurance company made claims about their policies which were as inaccurate as the claims routinely made by government officials about Medicare, the private officials would be violating numerous laws and would risk possible imprisonment.

According to the NCPA, the Medicare "trust fund" is largely a myth. There is no money being stored away in bank vaults for use during some later period. Every dollar paid into Medicare is spent by the federal government the very hour of the very day that it arrives.

Private insurance companies, by contrast, are required to keep an actual fund of assets from which to pay claims. They cannot simply write IOUs to themselves and spend the money elsewhere. Moreover, the benefits paid by private insurance companies are financed by the premiums paid by the policyholders.

By contrast, money paid into Medicare by today's workers is not invested in assets and kept there until those workers reach the age of 65. Money paid into Medicare by today's workers is spent immediately on benefits provided to today's beneficiaries. Today's workers, then, are not paying for their own benefits. They are paying for someone else's benefits. It is for this reason that

---

Mr. Foy is now the executive vice president of the New York State Medical Association. At the time he prepared this report, he was executive director of the Indiana State Medical Association.



Medicare, like Social Security, is properly referred to as a "pay-as-you-go" system.

I am always amazed by the fact that 28 percent of all Medicare spending is for the treatment of patients in the last year of their lives. Moreover, 11 percent of all Medicare spending is for the treatment of patients in the last 40 days of their lives.

Some observers believe that if Medicare patients were spending their own dollars, it is not at all certain that they would choose to deplete their estates by spending enormous sums of money to prolong life only marginally. On the other hand, if one has the opportunity to spend some one else's money to achieve marginal benefits, there is no economic reason not to do so.

The authors of this study believe that any Medicare reimbursement scheme, no matter how it is structured, will always be defective because consumers will always be spending, and the providers will always be receiving, someone else's money. The inherent defect in Medicare is that the decision makers can never be made to bear the full costs of their bad decisions.

### **The Health Bank IRA**

The National Center for Policy Analysis feels strongly that the long-term problems of funding and inefficiency in Medicare necessitate radical reform. Consequently the Center is proposing a system in which individuals will be allowed to make annual contributions to qualified individual retirement accounts called Health Bank IRAs. After a thirty-year period, sufficient funds would accumulate in these accounts to allow individuals to pay for their own medical expenses and/or purchase private health insurance for their retirement years. These individuals will have opted out of the basic Medicare program. They would rely on Medicare only in case of very large catastrophic medical expenses.

The choice to opt out of Medicare

would be voluntary. However, individuals who choose the IRA option would be given tax credits for their Health Bank IRA contributions. The Center has calculated that a tax credit of \$500 per person should be sufficient to encourage all members of each new

---

## **Being Considered As a Voluntary Medicare Alternative: Annual Contributions to Health Bank IRAs**

---

generation of workers to choose the private, IRA alternative to Medicare.

Money deposited in a Health Bank IRA would be the private property of the individual who creates the account. Moreover, this money would be part of the individual's estate and can be passed on to his heirs. As a result, when individuals spend their Health Bank IRA money, they would be spending their own money, not someone else's.

This proposal reduces the risk that succeeding generations will refuse to pay, or will inadequately pay, for their medical care during their retirement years. It allows all individuals to provide for their own medical care later in life from income earned during their working years. This proposal, therefore, solves the long-term funding problem which Medicare faces.

In addition, under this proposal individuals will be spending their own money for medical care. This means that individual IRA owners will have ideal incentives to weigh carefully the costs against the benefits of purchases of medical services and to avoid wasteful and inefficient spending.

The concept behind the Health Bank IRA proposal is to allow workers to withdraw an amount equal to all or

almost all of the payroll taxes they now pay into Medicare and place those funds into a private savings account. These funds would be used to pay for medical expenses and private health insurance in retirement, in lieu of Medicare. The federal government's role would be limited to providing catastrophic health insurance, through Medicare, and means-tested benefits, through the Medicaid program.

According to NCPA projections, by the time a worker reaches the age of 65, his IRA account would contain \$476,519. By the time the worker reaches the proposed eligibility age of 67, his IRA account would contain \$575,419.

This fund should be more than adequate to pay for medical care and/or private health insurance during retirement years. In order to encourage low-income workers to exercise the Health Bank IRA option, tax credits for allowable contributions would be refundable. This means that a worker with no taxable income will be able to make annual contributions to a Health Bank IRA with a tax refund granted by the federal government.

There is a quid pro quo, however. For the first 30 years of contributions under this program, each year that a worker makes an allowable contribution to his Health Bank IRA he will give up the right to 1/30th of the Medicare benefits that he otherwise would have been entitled to. Thus, if a worker contributes only once to an IRA account, when he reaches age 65 he will be entitled to 29/30ths of whatever Medicare pays for basic medical expenses. A worker who makes 15 contributions to an IRA will be entitled at age 65 to one-half of whatever Medicare pays. A worker who makes 30 contributions to an IRA will give up all claims against Medicare for basic medical expenses.

According to the NCPA proponents, the Health Bank IRA program would ultimately lead to a virtual phasing out of the basic medical insurance part of Medicare. Ultimately, Medicare would become almost exclusively a catastrophic health insurance plan.





# AUXILIARY REPORT

Alfrieda Mackel (Mrs. Frederick)  
ISMA Auxiliary President 1986-87

The ISMA Auxiliary is an important link in the network of more than 80,000 auxiliaries organized nationally to help the medical profession improve the health and quality of life for all people. I feel highly honored and privileged to serve as president this year and to be associated with a group with so noble a life work.

I am proud of our state officers for 1986-87, and I look forward to working with them as Partners in Health. We aim to provide Indiana's 2,550 members in 39 county medical auxiliaries with information, guidance and leadership for auxiliary projects, programs and goals. We'll do this with a program workbook, letters, telephone calls, visits, and the ISMA and ISMA Auxiliary annual meetings. Our first leadership workshop will be held this month and the second, on leadership training, will be held in October.

We will work closely with the AMA Auxiliary and will encourage the use of their invaluable materials and publications; we will encourage participation in workshops on membership, legislation, health projects and fund-raising ideas for medical schools and students; and leadership training

for county presidents-elect and state leaders.

Our goals include:

- Increasing the state and national membership by 136, increasing the membership of every county auxiliary, and forming three new county auxiliaries.

- Strengthening the key contact program for legislation, informing the counties about legislation on important

health issues, and promoting a legislation report at every auxiliary meeting.

- Preparing a Holiday Sharing Card to raise funds for our medical school and students.

- Increasing interest and participation in community health projects in every county and in the state health project, "An Early Start to Good Health," and use of the ISMA series, "Healthy, Happy and Wise."

## Welcome

Alfrieda Mackel, a past president of the Allen County Medical Auxiliary, lives north of Fort Wayne. She and her husband, Frederick Mackel, an orthopedic surgeon in Fort Wayne, have two sons and two daughters: Jerry, an orthopedic surgeon in practice with his father; David, an orthopedic surgeon in Hendersonville, N.C.; Susan, a dermatologist in Newport News, Va.; and Diane, an obstetrician-gynecologist in Toledo, Ohio. The Mackels have nine grandchildren (maybe 10 when you read this).

Alfrieda has served as the ISMA Auxiliary's legislation chairman, AMA-ERF chairman, northern area vice-

president, first vice-president and president-elect. She also has served the Allen County Auxiliary as legislation chairman, treasurer, president-elect and president.

Born in Clinton, Ind., Alfrieda was graduated from Indiana State Teachers College and taught Latin and social studies.

The Mackels are charter members of the North Christian Church of Fort Wayne where Alfrieda served as head of the Christian Education Department for 10 years. She represented her church on the Board of the Associated Churches of Fort Wayne for six years. She is now serving as the church's first woman elder.

## INDIANA STATE MEDICAL ASSOCIATION AUXILIARY Executive Committee

President	Alfrieda Mackel (Mrs. Frederick) Huntertown	Recording Secretary	Trudy Urgena (Mrs. Regino) Marion
President-elect	Anne Throop (Mrs. Frank B.) Indianapolis	Treasurer	Sue Greenlee (Mrs. Joseph A.) Kendallville
1st Vice President	Ann Wrenn (Mrs. Robert) Bloomington	Immed. Past President	Muriel Osborne (Mrs. John) Muncie
Area Vice-Presidents		Finance Secretary	Hulda Classen (Mrs. Peter) Elkhart
Northern	Lura Stone (Mrs. Robert) Ligonier	Editor ("Pulse")	Suzanne Miller (Mrs. John D.) Bluffton
Central	Jackie Kalsbeck (Mrs. John) Zionsville	Parliamentarian	Marianna Irwin (Mrs. Glenn) Indianapolis
Southern	Kay Enderle (Mrs. Frank) Terre Haute		

# AMERICAN COLLEGE of SPORTS MEDICINE

## An Update in the Practice of Sports Medicine

This clinical program is offered as a special segment of the 1986 American College of Sports Medicine Annual Meeting, hosted in Indianapolis, Indiana — home of the ACSM National Center

### Accreditation

The American College of Sports Medicine is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians. The American College of Sports Medicine certifies that this Continuing Medical Education offering meets the criteria for 3 hours of credit in Category 1 of the Physicians Recognition Award of the American Medical Association

**There is no registration fee for this portion of the conference.**

### Program

*"The Role of the Primary Care Physician in Sports Medicine"*

*"Cardiologic Problems in Sports Medicine"*

*"Orthopaedic Injuries: When to Treat/When to Refer"*

*"The Athletic Trainer in the Prevention and Rehabilitation"*

**Date:** May 27, 1986

**Time:** 7:00 p.m. to 10:00 p.m.

**Location:** Indiana Convention Center and Hoosier Dome - Room 123

Each participant will receive a special pass to the exhibit hall, open from 7:00 to 9:00 p.m. on Wednesday, May 28 and from 9:00 a.m. to 4:00 p.m. on Thursday, May 29 and Friday, May 30

---

### Registration Form for Clinical Component CME Credits

NAME: \_\_\_\_\_ DEGREE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

- ☐ Please send me an ACSM membership application
- ☐ Please send me more information about the 1986 Annual Meeting\*

\*The ACSM Annual Meeting will be held from May 28 - 30, 1986, at the Indiana Convention Center and Hoosier Dome

For processing of CME credit hours, please complete and return this form to: CME Department, ACSM National Center, P.O. Box 1440, Indianapolis, IN 46206-1440. Forms should be returned no later than May 12, 1986

# BOOK REVIEWS

## **We Are Not Alone: Learning to Live with Chronic Illness**

*By Sefra K. Pitzele. Copyright 1985, Thompson & Co., Inc., Minneapolis. 320 pages, softcover, \$14.95.*

The author quickly establishes the theme that chronic illness is forever and it hurts and it's unfair. But the author also firmly establishes the theme that patients with chronic illness are not alone and can use the experience and expertise of others to cope with chronic illness.

Chronic illness is permanent and is a cause of frequent and costly medical interventions and furthermore causes substantial modification of lifestyles, life goals, vocational choices and opportunities, recreational activities, interpersonal relationships, and family role or position.

The first three chapters encourage the chronically ill patient to look inwardly and establish an optimistic attitude through establishment of the diagnosis and grieving over the loss of health. Following chapters counsel such patients on how to reach out to loved ones and children and friends. The remaining nine chapters are devoted to adaptive strategies on utilization of the health care team, management of stress and pain, coping with depression, understanding family care givers, learning to rest and relax, sexuality, conserving body energy, managing daily living strategies, establishing one's rights as a patient and person.

Practitioners will find this book useful to recommend to patients with chronic illness. They will also find it useful as at least an occasional reference. Medical students and residents can also utilize this book to understand the thought processes and problems of chronically ill patients.

Patients with chronic illness will find this book useful because of its philosophy and practicality. The book is written for patients, in language which they can readily understand. Poignant and pertinent poetry is interspersed and humorous cartoons are

numerous. This is a comprehensive self-help book for chronically ill patients and it deserves high recommendations. It is well worth its price.—Alvin J. Haley, M.D., Indianapolis

## **Athletes: The Paintings of Joe Wilder, M.D.**

*Published by Harry N. Abrams, Inc., New York. Copyright 1985, C. V. Mosby Co., St. Louis.*

Our country has always tended to produce great illustrators, from N.C. Wyeth and his family through Frank Tenney Johnson to Norman Rockwell. The author of this "coffee table" book is, as he states beginning the "Introduction" "...an athlete, a surgeon and a painter." He then goes on to connect the three vocations in the sense that all require "...enormous energy, dedication, motivation and concentration." He makes a convincing argument for this contention. After Dr. Wilder achieved the basic artistic facility, he decided to paint only pictures relating to athletics.

Each major sport constitutes a chapter such as all the American "Ball" sports but also including Horse Racing, Boxing, Weight Lifting, Swimming and especially Auto Racing. There are short essays by experts in each discipline such as "Red" Auerbach on basketball and "Doc" Counsilman on swimming. There is a plethora of photographs of the author's art illuminating each section. He started specializing in pictures of the auto racing scene and then branched into all sports.

It is an easy book to read and his better pictures show good enough draughtsmanship to bridge the gap from illustration to genuine "art." The waiting room of any doctor's office would be graced with this book. The author (as I gleaned from his "Introduction") is quite an egotist—but who cares if his pictures enlarge our esthetic perceptions? This is good "stuff" for physicians.—Rodney A. Manion, M.D., LaPorte

## **Review of Medical Physiology, 12th Edition**

*By W. F. Ganong, M.D. Copyright 1985, Lange Medical Publications, Los Altos, Calif. 654 pages, softcover, \$22.50.*

*Review of Medical Physiology* by William F. Ganong, M.D., chairman, Department of Physiology, University of California at San Francisco, was first published in 1963. Since then, it has established an enviable record by publication in at least 12 languages in addition to English. It has also been recorded in English on tape for the blind. Its 12 editions in the brief period of 23 years reflect the Lange practice of frequent completely updated volumes on medical subjects of outstanding importance.

The current 12th edition is a terse but complete summary of human physiology. With its primary target audience medical students, the volume assumes basic knowledge of anatomy, chemistry and biochemistry. Its coverage of the usual subjects, such as the autonomic nervous system (Chapter 13), is concise and clear. Several new topics surface for the first time in this edition. Examples are data obtained with new imaging techniques in an expanded form and references to the clinical use of these techniques. For those interested in self-study or those preparing for examinations, a study guide is in preparation. Minor corrections throughout the book are designed to keep it timely.

The illustrations are well done and contribute considerably to readability and clarity. Welcome incorporations in the text are abbreviations and symbols commonly used in physiology, as well as helpful end papers.—W. D. Snively Jr., M.D., Evansville

Lange Medical Publications announces the release of the newest revision of *Principles of Clinical Electrophysiology* by Marvin J. Goldman. This is the 12th edition and has been revised to conform with the most current electrophysiological and clinical concepts. 460 pages, \$19.



## Practice Enhancement: The Physician's Guide to Success in Private Practice

By Greg N. Korneluk. Copyright 1985, MacMillan Publishing Co., New York. 284 pages, hardcover, \$23.50.

This treatise presents convincing evidence that private practice, both solo or group, is viable and will continue to be rewarding. The book is divided into four major divisions: Your Patients; Your Staff; Your Practice; and Your Colleagues. It is detailed and clearly written, and should be read carefully both by those in private practice and by those contemplating entering this type of practice. Competition from IPAs, HMOs, etc. make this book mandatory reading. This volume undoubtedly will become "The Standard" in its field.—I. E. Michael, M.D., Indianapolis

Pageant Publishing announces *For Laughing Out Loud! A Research Study into the Causes and Effects of Cackination and the Physical and Emotional Health Benefits to be Derived Therefrom*. The author is Robert Bie, a consultant with the American Institute for Human Development. In plain talk the book discusses laughter and its beneficial effects, both physical and emotional. The text is stated to be not only educational but humorous as well.—\$35.

## The Physician and the Hopelessly Ill Patient

Published by the Society for the Right to Die, Copyright 1985, New York, N.Y. 92 pages, softcover, \$5.

The ability of the modern doctor to keep a body alive by artificial means such as a respirator has increased exponentially in the last four decades. As science has marched onward and upward, mankind's moral understanding seems to have been disrupted almost fatally by the triumph of materialism in the Western World. Thus, there is a need for this book, which defines the doctor's responsibility to maintain life or encourage death.

It is a soft cover manual written by 10 physicians. The first section deals with the profession's concern in hopelessly ill patients. The common law regarding the right of privacy makes it very clear that a patient may make a "living will" or appoint a "durable power of attorney" and decline life-sustaining procedures. Secondly, this book illuminates aspects of the problem by the Socratic method of questions and answers. Finally, state-by-state laws are summarized. (Incidentally, Indiana has specific legislation for "living wills".)

There seems to be a growing body of case law which is tending to make the physician's role in withholding life support easier to sustain. Also, at least one instance is cited where a suit was

won against physicians and a hospital for *not* ending such unnatural means of aiding life. No legal difference is noted, for instance, between naso-gastric tube feeding and more esoteric items as cardiac pacemakers.

This little book is a gem and fills a great gap in our knowledge. We must keep up with these legal and ethical concepts to practice medicine intelligently and well.—Rodney A. Manion, M.D., LaPorte

## Cardiac Arrest

By Sarah Spinks. Copyright 1986, Doubleday & Co., Inc., New York. 230 pages, hardcover, \$17.95.

This author tells the tale of 33 infants who died in the pediatrics wards of the Hospital for Sick Children of Toronto in a period of approximately nine months. This was six times the customary death rate for these wards. For four years following, parents, prosecutors, judges, doctors, lawyers, hospital administrators, coroners and nurses attempted to explain this epidemic of deaths.

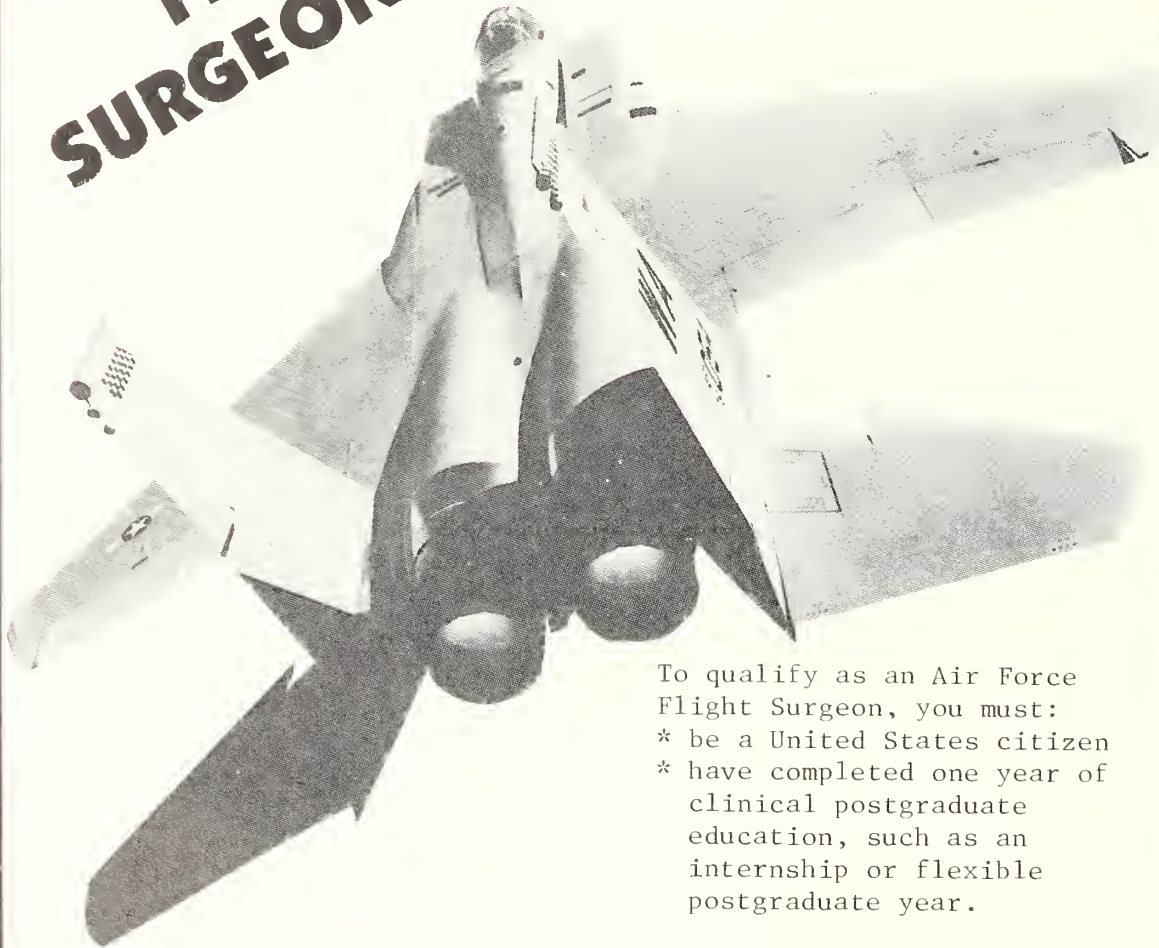
Were these 33 babies murdered? This is non-fiction, written in a journalistic fashion. It is listed as a "true account of stolen lives."

Read this book to see how Toronto handled this tragedy; how Toronto handled the grief and the rage and the sorrow of these mysterious deaths.—Alvin J. Haley, M.D., Indianapolis.

# THE AIR FORCE FLIGHT SURGEON

As an Air Force Flight Surgeon you will have a truly general practice in your office. In the air you'll fly with and observe air crew members — adding a new perspective to your medical career.

Without the headaches of office overhead and paperwork, with 30 days of vacation with pay each year, with time for your family, with medical and dental care, low cost life insurance, and a generous non-contributory retirement program. Maybe it's about time to give your life a new perspective.



To qualify as an Air Force Flight Surgeon, you must:

- \* be a United States citizen
- \* have completed one year of clinical postgraduate education, such as an internship or flexible postgraduate year.

APPLICATIONS ARE BEING ACCEPTED NOW

Contact: Captain Scott Simpson  
47 S. Pennsylvania, Suite 2  
Indianapolis, IN 46204  
(317) 269-6164/6354  
Outside area call collect

**AIR**  
**FORCE**  
A great way of life.





# Snakeroot Extract

Number 7

May, 1986

A NEWSLETTER OF INDIANA MEDICAL HISTORY

## Museum Secures Special Legislation to Lease Old Pathology Building



March 10, 1986, was a historic day for the Indiana Medical History Museum. On that day, Governor Robert D. Orr signed into law House Enrolled Act 1120. This bill, sponsored by Representatives George E. Schmid, Donald T. Nelson and Sheila A. Klinker and Senators Patricia L. Miller, Michael E. Gery and Frank L. O'Bannon allows the museum to lease from the state of Indiana on a long-term basis the historic Old Pathology Building on the grounds of Central State Hospital. For over a year the museum has been working with the Department of Mental Health, the Department of Administration, and the Department of Natural Resources to make such legislation a reality.

The Old Pathology Building was constructed in 1895 and opened in 1896 as Indiana's first medical center. During the late nineteenth century, mental hospitals and their superintendents had been criticized for not studying mental illness scientifically. In the late 1880s other mental institutions incorporated pathological departments into their hospital facilities for this purpose. In 1894 George Edenharter, the superintendent of Central State Hospital, decided to enlarge the hospital's pathological department by opening a "medical center"

on the hospital's grounds. The building was patterned after the New York Psychiatric Institute, which included both laboratories and teaching facilities. The Pathology Building at Central State Hospital enabled physicians to study mental illness using all the latest scientific techniques and equipment.

The building was a unique facility at the turn of the

*(continued on Page 3)*

*Pictured above is the signing of House Enrolled Act 1120. Present for this event were: (front row, left to right) State Senator Michael E. Gery (bill co-sponsor), State Representative George E. Schmid (senior author and bill sponsor), Governor Robert D. Orr, State Representative Sheila A. Klinker (bill co-sponsor), and State Representative Donald T. Nelson (bill co-sponsor); (back row, left to right) Kurt F. Pantzer, Jr. (museum attorney), Daniel E. Huff (executive assistant mental health commissioner), Katherine Mandusic McDonell (museum curator), William M. Sholty, M.D. (museum board president), and Charles A. Bonsett, M.D. (museum founder). Unable to attend the bill-signing ceremony were State Senator Patricia L. Miller (bill sponsor) and State Senator Frank L. O'Bannon (bill co-sponsor).*



## Museum's Acquisitions Reflect Technological Changes

During 1985 three hundred eighty artifacts were donated to the Indiana Medical History Museum (see Editor's Note below). Although diverse in nature, many of these items represent the technological innovations which occurred in medical instrumentation, as well as the quackery devices which proliferated during the nineteenth and early twentieth centuries. The most dramatic technological advances in instrumentation came with the invention of a number of diagnostic tools. With instruments such as the stethoscope, ophthalmoscope, sphygmomanometer, and x-ray, physicians could "see" inside the human body to arrive at an earlier, more accurate diagnosis of the patient's condition.

Various diagnostic instruments were included among the items donated to the museum this past year, but most impressive was the number and types of stethoscopes. The stethoscope was invented in 1816 by French physician Rene-Theophile-Hyacinthe Laennec (1781-1826). Laennec's device allowed for the earlier detection of diseases of the chest and abdomen. Yet, physicians accepted Laennec's device with cautious optimism. The first mention of the instrument in America was in 1820 in the *Journal of Foreign Medical Science and Literature*; the first advertisement for a stethoscope in Indiana was in the 1830s. Since the introduction of the stethoscope, there have been many modifications of Laennec's original design. Laennec's stethoscope was simply a cylindrical piece of wood measuring one foot in length and one and



*A late nineteenth-century binaural stethoscope (left) and a late nineteenth-century conversation tube (right) were among the many artifacts donated to the Indiana Medical History Museum in 1985*

one-half inches in diameter, with a perforation in the center. The instrument separated into two parts for convenient carrying. Although Laennec's invention improved diagnosis, physicians complained of both the inconvenience of using the rigid wooden tube and its poor sound quality. To overcome the cumbersome nature of the instrument, flexible stethoscopes were invented. Many of these were patterned after conversation tubes, an early device to aid hearing. These pliable monaural tubes, however, did not improve the quality of sound. In 1851 Dr. Arthur Leared of Dublin introduced the first binaural, or two ear piece, flexible stethoscope. During the second half of the nineteenth century, one of the leading and most respected manufacturers of binaural stethoscopes was George Cammann of New York. In the manufacture of his stethoscopes, Cammann combined flexibility and lightness with improved acoustics.

In the twentieth century physicians and stethoscope manufacturers have concentrated their efforts on improving the chest piece of the instrument. The flared bell-shaped chest pieces of the earlier stethoscopes, including those manufactured by Cammann, did not selectively focus on sounds within the chest. In 1901

*(continued on Page 3)*

ISSN 0743-6033

*Snakeroot Extract* is a joint publication of the Indiana Historical Society's Medical History Committee (315 West Ohio Street, Indianapolis, Indiana 46202) and the Indiana Medical History Museum (Old Pathology Building, 3000 West Washington Street, Indianapolis, Indiana 46222). The newsletter is mailed to members of both the committee and the museum.

Charles A. Bonsett, M.D., *Editor*

Ann G. Carmichael, M.D., Ph.D., *Asst. Editor*

Katherine Mandusie McDonell, *Managing Editor*

Submit all items for publication in the newsletter and inquiries about membership information to the Managing Editor, c/o Indiana Historical Society, 315 West Ohio Street, Indianapolis, Indiana 46202.

*Snakeroot Extract* derives its name from the white snakeroot plant, a plant that is significant in Indiana medical history. For years, a mysterious disease called milk sickness plagued early Hoosiers. There were many theories as to the disease's cause, but the actual cause remained unknown until the 1920s. At that time, the disease was traced to the white snakeroot plant or, rather, to the consumption of milk from cows that had eaten it. The plant contains the poison tremetol.

*EDITOR'S NOTE: Over 160 of the artifacts donated to the museum this past year came from the William Hammond Matthers Museum in Bloomington, Indiana. These items originally belonged to George Frank Holland (1872-1936) and Phillip Todd Holland (1905-1973) of Bloomington who were both physicians and collectors of antique medical equipment. The transfer of this collection to the Indiana Medical History Museum represents a cooperative effort among the state's museums to locate appropriate homes for artifacts which are no longer consistent with their collection goals or policies.*

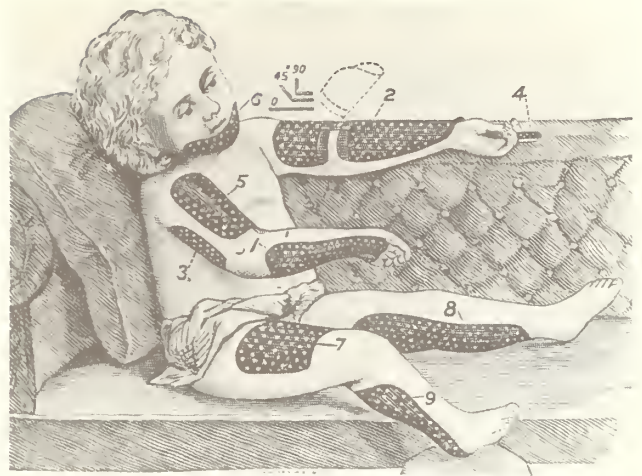
## Museum's Acquisitions

(continued from Page 2)

Robert C. M. Bowles of Boston patented a double chest piece consisting of a bell and a diaphragm. Yet, even with the various design changes, the use of the device depended upon the skill of the physician. Many physicians had difficulty mastering the techniques of auscultation. Thus, even in the late nineteenth century, the more awkward monaural stethoscopes continued to be marketed alongside the more sophisticated binaural models.

Another diagnostic instrument donated to the museum was an early x-ray machine. In 1895 Wilhelm Conrad Roentgen (1845-1922), of the University of Wurzburg in Bavaria, discovered a type of ray which was capable of penetrating opaque substances. The image produced could be transferred to photographic plates. The benefit of this device to medical science became apparent immediately. Before setting a fracture, doctors could see the bone fragments and thus manipulate them with a greater degree of accuracy. Moreover, diseases of various organs could often be detected earlier than before. Thus, the x-ray met with rapid acceptance. The earliest x-ray machines were generated by static electricity, but models in the early twentieth century were run by household electricity. The x-ray machine received by the museum was powered by ordinary household current. The machine, which dates from the 1910s and was manufactured by the Thompson and Plaster Company of Chicago, consists of two parts: the actual x-ray apparatus and an oak cabinet which contains the controls and high frequency coils to generate power for the x-ray apparatus. The machine originally belonged to Louis C. Lukemeyer, Sr., who practiced in Huntingburg, Indiana, and was given to the museum by his son, Louis C. Lukemeyer, Jr.

Late nineteenth-century surgical equipment also experienced several design innovations. The discovery that bacteria caused infectious diseases led surgical instrument manufacturers to redesign their instruments, evident in many of the amputation kits and surgical instru-



An advertisement for the Lee's patented metallic splints. Reproduced from William H. Armstrong Company, **A Catalogue of Surgical Instruments, Deformity Apparatus, Aseptic Furniture, and Hospital Supplies** (Indianapolis, 1893)

ments donated to the museum. Early nineteenth-century surgical instruments often had elaborately designed handles of ivory, ebony, or bone and were stored in velvet-lined, wooden cases. These handles, held by ungloved, often unwashed hands, harbored germs and made sterilization of the instrument difficult. By the late nineteenth century aseptic amputation and operating cases were introduced to the medical marketplace. Manufacturers substituted aluminum handles for the ivory ones. The velvet linings of surgical cases were replaced with leather, which could be cleaned more easily. The William A. Armstrong Company in Indianapolis, for example, introduced a "compact aseptic operating case"

(continued on Page 4)

## Author Donates Book to Museum

Author and compiler Carlyn Ring recently donated a copy of her book, *For Bitters Only*, to the Indiana Medical History Museum. This 540-page book contains illustrations and lists of over 2,800 bitters bottles and is a useful tool for the curator, as well as the bottle collector. "Bitters," a commonly employed home remedy, consisted of a variety of roots, barks, and leaves which were stewed and distilled and usually combined with some form of liquor.

## Museum Secures Legislation

(continued from Page 1)

century and is now a unique historic structure. In the late 1960s Charles A. Bonsett, M.D., of Indianapolis, formed the Indiana Medical History Foundation (now called the Indiana Medical History Museum) to preserve the Old Pathology Building, as well as to collect medical history artifacts. Through the efforts of Dr. Bonsett, the building was included on the *National Register of Historic Places* and the *Historic American Buildings Survey*. With House Enrolled Act 1120 in place, the museum will be in a position to raise the funds necessary to restore this historic structure. In the past, fund-raising efforts for the organization have been hampered because the museum did not have a title or a long-term lease on the Old Pathology Building. Having secured special lease legislation, the museum can begin planning a fund drive to raise money for the restoration of the Old Pathology Building and the eventual construction of a new exhibits hall.



## Museum's Acquisitions

*(continued from Page 3)*

to the Indianapolis medical community in the 1890s. The case was made of wood but was covered and lined with a light-colored leather which could be cleaned without much effort. Bacteriology also had its effect on the manufacture of splints. In the early part of the century splints were made primarily of wood, but by the late 1800s antiseptic splints were available to physicians. Dr. R. J. Levis of Pennsylvania introduced and manufactured the Lee's patented metallic splints. Manufactured from a thin sheet of nickel-plated copper, these splints were perforated to allow ventilation. They were advertised as lightweight, indestructible, and "the only antiseptic splints" available to physicians.

While many of the museum's recent acquisitions represent technological advances in medical instrumentation, several of the artifacts hint at the variety of quackery devices which existed alongside the technological innovations. Two of the most interesting gadgets were the J. B. L. Internal Bath and the Violetta electric generator. The J. B. L. (an abbreviation for "joy, beauty, and life") Internal Bath was invented and marketed by a New York eclectic physician named Charles A. Tyrell. Tyrell believed disease had one cause: autointoxication. He claimed that if used regularly, his "cascade internal bath," or enema bag, would cure any ailment. Tyrell also marketed an "Ideal Sight Restorer," which he claimed cured farsightedness and nearsightedness as well as astigmatism and glaucoma. In the early 1900s the American Medical Association denounced



*The "Violetta" violet ray generator*

Tyrell's device, but in the 1920s and 1930s a number of electrical-therapeutic gadgets abounded. Manufacturers claimed that use of their instrument eliminated the need for surgery. One of the more popular medical electrical appliances in the 1920s was the "Violetta," purported to be useful in over eighty-six different ailments. The device consists of a high voltage generator with a variety of interchangeable hollow glass "vacuum" tubes. The device ionized the air, and when applied to the skin one could see a bluish-purple stream of light in the tube and could hear a crackling and buzzing sound. The "violet rays" produced by the instrument were advertised as beneficial in strengthening the vital organs, steadying the nerves, and improving general nutrition and health. It was not until 1938 that the Food and Drug Administration had the authority to regulate this type of device quackery.

**Indiana Historical Society  
Indiana Medical History Committee  
315 West Ohio Street  
Indianapolis, IN 46202**



# [It's not getting any easier to practice medicine.

*A physician involved in today's growing medical community, you are faced with the increased involvement of the third party.*

*Complex, changing rules and regulations far too often result in disputed billings, inconsistent third party reimbursement and slow payment.*

*Management of your office and accounts receivable can often require more of your time than can be reasonably allocated without neglecting your practice.*

**Medical Accounts Group, Inc.** recognizes the needs of Indiana's medical community, and provides accounts receivable management to meet individual needs in an efficient and cost effective manner.

Highly qualified professionals assist you in developing tailored solutions to your office management problems. Expertise in a broad range of service products includes data processing, third party interface, patient accounts management, turnkey installation and support, and complete office management.

We invite you to call for further information on the **Medical Accounts Group** and allow us the opportunity to demonstrate our services to you.



---

**MEDICAL ACCOUNTS GROUP, INC.**

125 North Meridian • Indianapolis, Indiana 46202 • (317) 923-3046 • 1-800-468-1018 (in Indiana)

**Serving Indiana's Growing Medical Community**

# ***PHYSICIANS' DIRECTORY***

## **CARDIOLOGY DIAGNOSTIC AND INTERVENTIONAL**

**WILLIAM K. NASSER, M.D.**

**MICHAEL L. SMITH, M.D.**

**DENNIS K. DICKOS, M.D.**

**CASS A. PINKERTON, M.D.**

**JOHN D. SLACK, M.D.**

**JAMES W. VAN TASSEL, M.D.**

**CHARLES M. ORR, M.D.**

**JANE HOWARD, M.D.**

CARDIOLOGY AND CARDIAC CATHETERIZATION  
ECHOCARDIOGRAPHY  
EXERCISE STRESS TESTING  
CORONARY ANGIOPLASTY  
NUCLEAR CARDIOLOGY  
PACEMAKER SURVEILLANCE  
HOLTER MONITORING

### **ST. VINCENT PROFESSIONAL BUILDING**

**SUITE 400**

**8402 HARCOURT ROAD**

**INDIANAPOLIS, INDIANA 46260**

PHYSICIAN  
REFERRAL ONLY

TELEPHONE (317) 875-9316  
(TOLL-FREE) 800-732-1482  
(TOLL-FREE) 800-CHD-PTCA  
DAY OR NIGHT

# PHYSICIANS' DIRECTORY

## COLON AND RECTAL SURGERY

**W. M. KENDRICK, M.D.**  
**G. A. DONNALLY, M.D.**  
**R. JAMES WILSON, M.D.**  
**W. E. KELLEY, M.D.**  
**RICHARD L. STOUT, M.D.**

Certified: International Board of Proctology

Practice limited to Colonoscopy,  
 Treatment and Surgery of Rectal Diseases

**Kendrick Memorial Hospital, Inc.**  
**Mooresville, Indiana**  
**Tel: 317-831-9300**

(JCAH Accredited)

## PLASTIC SURGERY

**AMBULATORY SURGERY FACILITY**  
 1944 N. Capitol Ave. Indianapolis 46202

"An office surgery facility"

**HAROON M. QAZI, M.D., F.A.C.S.**

**Diplomate, American Board of Plastic Surgery**  
**Phone: 317-923-4822 317-926-3466**

A space this size in the Physicians' Directory costs only \$120. Even a notice this size will serve to provide referrals for the next 12 months.

## ALCOHOLISM TREATMENT



**KOALA  
 CENTER**

### Individualized Treatment for Alcoholism and Drug Abuse

**Men — Women — Adolescents**

**Michael Chadwick, M.D.**  
**David Gregory, M.D.**  
 Koala Center  
 2223 Poshard Drive  
 Columbus, Indiana  
 (812) 376-1711

**John Krueger, M.D.**  
 Koala Center of  
 St. Joseph's Hospital  
 700 Broadway  
 Fort Wayne, Indiana  
 (219) 425-3825

**John Saalwaechter, M.D.**  
 Koala Center  
 1711 Lafayette Avenue  
 Lebanon, Indiana  
 (317) 482-3711  
 and  
 Koala Adolescent  
 1404 S. State Avenue  
 Indianapolis, Indiana  
 (317) 783-4084

**Daniel Kubley, M.D.**  
 Koala Center  
 1800 N. Oak Road  
 Plymouth, Indiana

**Indiana Toll-Free  
 24-Hour HELPLINE  
 1-800-622-4711**

### OUTREACH OFFICES

Bloomington  
 Clarksville  
 Hammond  
 Indianapolis  
 Marion  
 Richmond  
 South Bend  
 Muncie  
 Crawfordsville



# PHYSICIANS' DIRECTORY

## CARDIOLOGY

### INDIANAPOLIS CARDIOLOGY ASSOCIATES, INC.

Robert E. Edmands, M.D.  
Samuel M. Hazlett III, M.D.

Abdel A. Zeni, M.D.  
Don B. Ziperman, M.D., F.A.C.C.

CARDIOLOGY AND CARDIAC CATHETERIZATION  
ECHOCARDIOGRAPHY  
EXERCISE STRESS TESTING  
CORONARY ANGIOPLASTY  
PACEMAKER SURVEILLANCE  
HOLTER MONITORING

1315 North Arlington Avenue  
Suite #100  
Indianapolis, Indiana 46219  
(317) 359-3501

*PHYSICIAN REFERRAL ONLY*

1500 Albany Street  
Suite #912  
Beech Grove, Indiana 46107  
(317) 786-9211

## PERIPHERAL VASCULAR SURGERY

## ALCOHOLISM TREATMENT



VASCULAR SURGERY, INC.

AUSTIN L. GARDNER, M.D., F.A.C.S.  
MALCOLM B. HERRING, M.D., F.A.C.S.  
DANIEL R. LEGRAND, M.D., F.A.C.S.  
DAVID L. MADISON, M.D.

8401 HARCOURT ROAD, SUITE 613  
INDIANAPOLIS INDIANA 46260

OFFICE HOURS BY APPOINTMENT  
TELEPHONE (317) 872-4129

OR

800-662-5367  
8 a.m. to 5 p.m. only  
Monday-Friday

## Douglas Bullington, M.D.

Program Director



### COUNTERPOINT CENTER

at Valle Vista Hospital  
898 E. Main Street  
Greenwood, IN 46142  
317/887-1348

- Free evaluation and intervention
- Adult & Adolescent Treatment Services
- 24 hours-a-day

# PHYSICIANS' DIRECTORY

## INTERNAL MEDICINE

### NEPHROLOGY & INTERNAL MEDICINE, INC.

Thomas Wm. Alley, M.D., FACP    Theodore F. Hegeman, M.D.  
George W. Applegate, M.D.    Douglas F. Johnstone, M.D.  
Charles B. Carter, M.D.    Wendy L. Kindig, M.D.  
William H. Dick, M.D., FACP    LeRoy H. King, Jr., M.D., FACP  
Mary A. Margolis, M.D.

1801 N. Senate Blvd, Suite 355, Indianapolis 46202  
Tel: 317 924 8425

By Physician Referral

Answering Service 926-3466

CLINICAL NEPHROLOGY, RENAL TRANSPLANTATION, HEMODIALYSIS, PERITONEAL DIALYSIS, HYPERTENSION, FLUID AND ELECTROLYTE IMBALANCE, CRITICAL CARE.

**MERIDIAN MEDICAL GROUP, INC.**  
**MAIN OFFICE—1801 N. Senate Blvd.**  
**929-5800**

**NORTH OFFICE—3077 E. 98th St.**  
**(98th & Keystone) 843-8704**

#### CARDIOLOGY

Richard M. Nay, M.D. 929-8505  
Warren E. Coggeshall, M.D. 846-5666  
Richard R. Schumacher, M.D. 929-5818

#### GASTROENTEROLOGY

Robert D. Pickett, M.D. 846-4696  
Lee G. Jordan, M.D. 929-5826  
Martin P. Meisenheimer, M.D. 929-5816  
John C. Kohne, M.D. 929-5822

#### HEMATOLOGY/ ONCOLOGY

James E. Schroeder, M.D. 929-5812  
Frank A. Workman, M.D. 929-5813

#### METABOLISM & ENDOCRINOLOGY

William M. Holland, M.D. 843-8700

#### INTERNAL MEDICINE

Hunter A. Soper, M.D. 929-5810  
Douglas H. White, Jr., M.D. 843-8736  
B. T. Maxam, M.D. 843-8703  
Michael B. DuBois, M.D. (GERIATRICS)  
929-5806

Patricia K. Hendershot, M.D. 929-5815  
Douglas J. Moeller, M.D. 929-5808  
Timothy J. Story, M.D. 929-5811  
John F. Schaefer, Jr., M.D. 929-5807

#### NEUROLOGY EEG AND EMG LAB

Norman W. Oestrike, M.D. 929-5828  
Charles E. Rehn, M.D. 929-5827  
John R. Scott, M.D. 929-5819  
Bradford R. Hale, M.D. (PEDIATRICS)  
929-5823  
Robert J. Alonso, M.D. 929-5824

#### PULMONARY DISEASES

Michael R. Niemeier, M.D. 929-5820

## CLINICAL, ANATOMIC PATHOLOGY



### The Medical Laboratory

of Drs. Thornton - Haymond - Costin- Buehl  
Boling - Warner - McGovern - McClure - Hooker

5940 West Raymond Street, Indianapolis, Indiana 46241

Phone: (317) 248-2448

### COMPLETE LABORATORY SERVICES

Serving Indiana Since 1947

- MICROBIOLOGY
- SEROLOGY
- CHEMISTRY
- SURGICAL PATHOLOGY
- HEMATOLOGY
- COAGULATION
- FORENSIC
- CYTOLOGY
- EKG
- VETERINARY PATHOLOGY
- TOXICOLOGY
- COURIER SERVICES



### CLINICAL AND ANATOMIC PATHOLOGY

Central Testing Facility:  
5940 W. Raymond St.  
For information and details phone  
248-2448

## RHINOLOGY

By appointment only

317-359-9636

### CARL B. SPUTH, M.D.

*Diseases & Surgery of Nose & Sinuses  
Plastic Surgery of the Nose  
Nasal Allergy, Rhinomanometry*

5506 E. 16th St.

Indianapolis 46218

# PHYSICIANS' DIRECTORY

## OTOLOGY

### MERIDIAN OTOLOGY LAB

- \*Complete Audiometric Evaluations
- \*Hearing Aid Evaluations and Dispensing
- \*Brainstem Auditory Evoked Response
- \*Visual Evoked Response
- \*Electronystagmography

Richard Kurtz, M.D.      Jack Summerlin, M.D.  
Kathleen Corbin, M.A., CCC-A  
Audiologist

3266 N. Meridian Street      Indianapolis, Indiana  
Suite B12      (317) 925-7077

## PSYCHIATRY

### Davis Psychiatric Clinic, Inc.

1431 North Delaware Street  
Indianapolis, Indiana 46202  
317/634-9930

James R. Davis, M.D.      R. Peter Mohlman, M.D.  
Larry M. Davis, M.D.      George McAfee, M.D.  
Balwant S. Mallik, M.D.      Judith L. Campbell, M.D.

Comprehensive Child, Adolescent, Adult Psychiatry  
Sexual Therapy, Crisis Intervention  
Alcohol and Substance Abuse

## DERMATOPATHOLOGY

### DERMATOPATHOLOGY LABORATORY

Larry J. Buckel, M.D.  
Robert M. Hurwitz, M.D.

Howard R. Gray, M.D.  
William B. Moores, M.D.



Diplomates of the American Boards  
of  
Dermatology and Dermatopathology

*Specializing in*  
Inflammatory Skin Diseases  
and  
Neoplasms of the Skin

9202 North Meridian Street  
Suite 215

Approved for and Accept  
Medicare and Medicaid  
Assignment

Indianapolis, Ind. 46260  
(317) 843-2204

UPS Mailers and Courier Service Available



# *PHYSICIANS' DIRECTORY*

## ONCOLOGY—HEMATOLOGY

### INDIANA ONCOLOGY-HEMATOLOGY CONSULTANTS



#### ADULT ONCOLOGY HEMATOLOGY

Laurence H. Bates, M.D.  
William H. Bond, M.D.  
William M. Dugan, M.D.  
Redmond P. Hogan, M.D.  
Gregory W. Smith, M.D.

#### PEDIATRIC ONCOLOGY HEMATOLOGY

Deborah S. Provisor, M.D.

#### HOSPICE CARE-INTERNAL MEDICINE

Neil E. Irick, M.D.

1828 N. ILLINOIS  
INDIANAPOLIS  
INDIANA 46202

PHONE: 317/927-5770  
TOLL FREE: 1-800-ONC-HEMF  
1-800-662-4363

*Located in the Byram Gates Middleton House  
Listed on the National Register of Historic Places*

# PHYSICIANS' DIRECTORY

CLINICAL, ANATOMIC PATHOLOGY



## CENTRAL INDIANA PATHOLOGY LABORATORIES, INC.

Edwin E. Pontius, M.D., F.C.A.P.      Mary L. Forster, M.D., F.C.A.P.  
*Director*      *Co-Director*

Elizabeth C. Bond, M.T.(ASCP), S.M.  
*Administrator*

- PROMPT WALK-IN SERVICE
- 24 HOUR TURNAROUND FOR MOST TESTS
- COURIER SERVICE FOR PHYSICIAN OFFICES
- ASSIGNMENT ACCEPTED ON MEDICARE AND MEDICAID
- BLUE SHIELD PREFERRED PROVIDER

**MAIN LABORATORY**  
Northwest Medical Building  
3500 Lafayette Rd.  
291-9364

**BRANCH LOCATIONS**  
Westlake Medical Building  
805 Beachway Dr. 244-7754  
Zionsville  
50 Boone Woods 873-4286

**• A FULL SERVICE OUTPATIENT CLINICAL LABORATORY •**

## ORTHOPEDIC FOOT SURGERY

### ROBERT M. PALMER, M.D. A.A.O.S. F.A.C.S.

Diplomate of the American Board  
of Orthopaedic Surgery

Member of the American Orthopaedic  
Foot and Ankle Society

### ORTHOPAEDIC RECONSTRUCTIVE SURGERY OF THE FOOT AND ANKLE

2020 W. 86th Street, Suite 304  
Indianapolis, Indiana 46260  
(317) 872-3364

## HAND SURGERY

### VIDYASAGAR S. TUMULURI, M.D., F.A.C.S., INC.

(DIPLOMATE AMERICAN BOARD OF SURGERY)

*Acute & Reconstructive Hand Surgery*

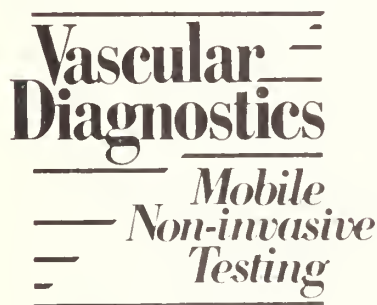
By Appointment      South Sherman Professional Complex  
Telephone (317) 783-1319      3417 S Sherman Dr. Suite F  
If No Answer Call (317) 926-3466      Beech Grove Indiana 46107

A space this size in the Physicians' Directory costs only \$120. Even a notice this size will serve to provide referrals for the next 12 months.

# PHYSICIANS' DIRECTORY

## VASCULAR DIAGNOSTICS

Mobile vascular laboratory service



State of the art non-invasive vascular testing

Performed on site at various hospitals throughout central Indiana. Current sites include Danville, Lebanon, Logansport, Monticello and Rushville.

### EXAMS AVAILABLE INCLUDE:

1. Cerebrovascular assessment
  - a. Direct visualization (Real-time B-mode ultrasound).
  - b. Indirect tests (Periorbital Doppler exam, spectral analysis).
2. Extremity exams
  - a. Arterial Doppler exam (upper and lower extremities).
  - b. Venous Doppler exam (upper and lower extremities).
  - c. Thoracic outlet Doppler screen.
  - d. Digital mapping (e.g. for evaluation of vasospastic disorders).
  - e. Penile Doppler (evaluation for vasculogenic impotence).
  - f. Post-occlusive lower extremity Doppler exam.

For information regarding examination sites and patient scheduling call (317)-872-4129, outside of Indianapolis call 1-800-662-5367. (Offices of Drs. Gardner, Herring, LeGrand, and Madison). Additional exam sites available.



# PHYSICIANS' DIRECTORY

## OPHTHALMOLOGY



### Indiana Eye Associates

COMPLETE  
MEDICAL, DIAGNOSTIC & SURGICAL  
OPHTHALMIC SERVICES

- Eye Examinations
- Consultations
- Surgery: Cataract, Implant, Glaucoma, Laser, Pediatric, Plastic, Retinal, Corneal and Refractive
- Contact Lenses: Hard, Soft, Gas Permeable & Extended Wear
- Visual Fields
- Ocular & Endothelial Photography
- Ultrasonography

#### Physicians:

David L. Alvis, M.D.	Jack L. Kane, M.D.
Peter H. Cahn, M.D.	John E. Mitchelson, M.D.
George A. Clark, M.D.	Francis W. Price Jr., M.D.
Parvin D. Gillim, M.D.	George E. Waters Jr., M.D.

Indiana Eye Associates P.C.  
9100 Meridian Square  
50 East 91st Street (at North Meridian)  
Indianapolis, IN 46240  
Phone: (317) 848-1348

## NEUROLOGY

### SHIRLEY M. MUELLER, M.D. NEUROLOGY

Pain, Headache &  
Diseases of the  
Autonomic Nervous System  
(including testing)

**317-871-6000**

**NORTH:** St. Vincent's Professional Bldg. #726  
**SOUTH:** Greenwood Heights Professional Bldg. #6

### Attention Indiana Physicians

The *Physicians' Directory* is the most ethical and professional method of announcing specialty practice. It is also the most effective medium for listing office location, office hours, and telephone number for the convenience of colleagues in referring patients.

The title of diplomate of a specialty examining board, a requirement for admission to the *Directory*, offers its assurance of qualifications, whether listed or not.

Family physicians may announce office schedules that are reciprocally staggered in order to provide access to evening and weekend and holiday medical service.

In addition to providing benefits to physicians, the *Directory* is a practical means of providing financial support for INDIANA MEDICINE.

All diplomates of the ISMA are invited to enter a professional card in the *Directory*.

## ABDOMINAL SURGERY

### TED W. GRISELL, M.D.

*Providing consultative services  
for physicians throughout Indiana  
for patients with  
complex management problems*

5317 East 16th Street  
Indianapolis 46218

317-359-8261

Phone answered 24 hours

# CME QUIZ

TO OBTAIN ONE HOUR OF CATEGORY 1 AMA CME CREDIT, answer the following questions by circling the correct answer on the answer sheet below. Complete and clip the application form and mail it to: Indiana University School of Medicine, CME Division, Fesler Hall 224, 1120 South Dr., Indianapolis 46223.

## Dissociative Disorders

CONTINUED FROM PAGES 410-415

1. All but the following are examples of dissociative disorders:
  - a. Multiple personality
  - b. Alcoholic blackout
  - c. Psychogenic amnesia
  - d. Depersonalization disorder
  - e. Psychogenic fugue
2. Dissociative disorders are:
  - a. Extremely rare
  - b. Uncommon
  - c. Frequent
  - d. Extremely common
3. Dissociative disorders have been linked to the following types of trauma:
  - a. Combat
  - b. Physical abuse
  - c. Sexual abuse
  - d. Concentration camp experiences
  - e. All of the above
4. Amnesia occurs in all but the following:
  - a. Psychogenic amnesia
  - b. Multiple personality
  - c. Depersonalization disorder
  - d. Psychogenic fugue
5. Assumption of a new identity may occur in the following:
  - a. Psychogenic amnesia
  - b. Psychogenic fugue
  - c. Depersonalization disorder
  - d. Ganser syndrome
6. The onset of this disorder is almost always in childhood:
  - a. Psychogenic amnesia
  - b. Psychogenic fugue
  - c. Multiple personality
  - d. Depersonalization disorder
7. Multiple personality disorder has been characterized by:
  - a. Different visual evoked potentials among personalities
  - b. Different patterns of cerebral blood flow among personalities
  - c. Headaches
  - d. Conversion reactions
  - e. All of the above
8. Fugues have been associated with the following:
  - a. Hypoglycemia
  - b. Hypertensive encephalopathy
  - c. Uremia
  - d. Schizophrenia
  - e. All of the above
9. Temporal lobe epilepsy is not associated with:
  - a. Fugue
  - b. Depersonalization
  - c. Derealization
  - d. Premeditated murder
  - e. Semipurposeful behavior

## APRIL CME QUIZ Answers

Following are the answers to the CME quiz that appeared in the April 1986 issue: "Mycosis Fungoides: Cutaneous T Cell Lymphoma," by Warren W. Epinette, M.D.

- |      |       |
|------|-------|
| 1. c | 6. a  |
| 2. b | 7. d  |
| 3. d | 8. d  |
| 4. b | 9. a  |
| 5. c | 10. d |

10. The following therapeutic modality is the treatment of choice in most dissociative disorders:
  - a. Psychodynamic psychotherapy
  - b. Supportive psychotherapy
  - c. Behavior therapy
  - d. Psychopharmacotherapy

### Answer sheet for Quiz: (Dissociative Disorders)

- |              |              |
|--------------|--------------|
| 1. a b c d e | 6. a b c d   |
| 2. a b c d   | 7. a b c d e |
| 3. a b c d e | 8. a b c d e |
| 4. a b c d   | 9. a b c d e |
| 5. a b c d   | 10. a b c d  |

I wish to apply for one hour of category 1 AMA Continuing Medical Education credit through the I.U. School of Medicine. I have read the article and answered the quiz on the answer sheet above. I understand that my answer sheet will be graded confidentially, at no cost to me, and that notification of my successful completion of the quiz (80% of the questions answered correctly) will be directed to me for my application for the Physician's Recognition Award of the American Medical Association. I also understand that if I do not answer 80% of the questions correctly, I will not be advised of my score but the answers will be published in the next issue of INDIANA MEDICINE.

Name (please print or type)

Address

Identification number (found above your name on mailing label)

Signature

To be eligible for this month's quiz, send your completed, signed application before June 10, 1986 to the address appearing at the top of this page.





**AIR  
FORCE**

A great way of life.

## HEALTH CARE AT ITS BEST: AIR FORCE MEDICINE

Air Force medicine is one of our best benefits, and, with your help, we'll keep it that way. The Air Force needs physicians such as you to become members of our health care team.

Most administrative responsibilities are in the hands of others, giving our physicians the time to give their full attention to the patients' needs. Our hospitals are staffed with dedicated, competent professionals.

You'll find you will have time for your family, and to keep abreast of the latest methods and technologies that you don't have time for now. We also offer unlimited professional development and financial security.

If you're considering a change, consider Air Force medicine. To find out more about Air Force medicine, contact your nearest Air Force recruiter. Experience health care at its best.

Capt. Scott Simpson

SSgt. Ernie Williams

SSgt. Bill Turner

317-269-6164 or 6354 collect

# Dx: recurrent herpes labialis

WILLIAM M. CAMERON, M.D.  
748 EAST HIGH ST.

For:

R

*Herpecin-L  
Lip Balm  
Sig: q.h.  
as needed*

**HERPECIN-L®**

"HERPECIN-L is my **treatment of choice** for perioral herpes." GP, NY

"HERPECIN-L appears to actually **prevent** the blisters . . . used **soon enough**." DDS, MN

"HERPECIN-L® . . . a **conservative approach** with **low risk/high benefits**." MD, FL

"Used at **prodromal symptoms** . . . blisters **never formed** . . . remarkable." DH, MA

"(In clinical trials) . . . **response was dramatic**. **HERPECIN-L** . . . proven **far superior**." DDS, PA

"All patients claimed **shorter duration** . . . at **prodromal symptoms** . . . **HERPECIN-L averted** the attacks." MD, AK

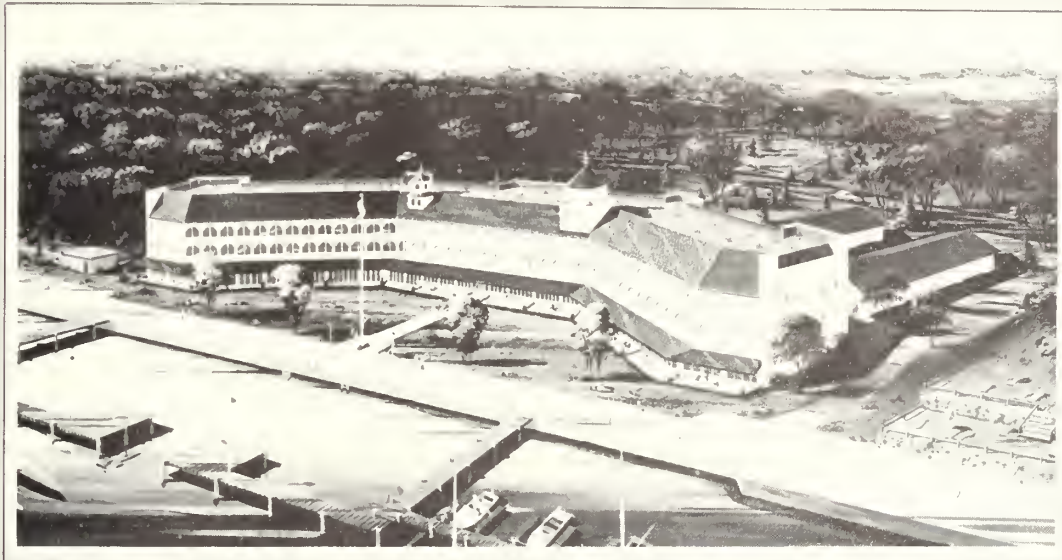
OTC. See P.D.R. for information. For samples to make your own clinical evaluation, write: CAMPBELL LABORATORIES, INC., P.O. BOX 812-MD, FDR STATION, NEW YORK, N.Y. 10150

In Indiana HERPECIN-L is available at all *Hook, Osco, Peoples, Revco, Ribordy, SuperRx Drug Stores* and other select pharmacies.





# Wawasee Spink Condominiums



Newly constructed in the historic  
**Spink Hotel** building on the sandy  
north shore of Lake Wawasee.

- \* 600 feet of Wawasee's Best Frontage
- \* Elevators
- \* Swimming Pool
- \* Tennis Courts
- \* Private Two-Car Garages
- \* ... and much, much more

**CALL US FOR  
DETAILS  
(219) 457-4446**



1006 S. Huntington  
Syracuse, IN 46567

Harlen Steffen, Broker

WS 1701

# NEWS NOTES

## For the Asking...

- The Occupational Safety and Health Administration has developed guidelines for health care employees and physicians who administer and handle antineoplastic drugs. Such drugs are often carcinogenic. OSHA says: "Current practices in the preparation, storage, administration and disposal of this widely used group of drugs used in chemotherapy to treat cancer may expose pharmacists, nurses, physicians and other health care workers to high environmental levels of the same drugs." Physicians who administer or expect to administer antineoplastic drugs may obtain a copy of the safety guidelines by writing to the Dept. of Labor, Occupational Safety and Health Administration, 46 E. Ohio St., Rm. 423, Indianapolis 46204.

- A new cookbook of recipes that meet the Dietary Guidelines for Lower Cancer Risk is now available from the American Institute for Cancer Research (AICR), a national, non-profit organization that focuses on cancer prevention through diet and nutrition. The cookbook, *An Ounce of Prevention*, provides more than 75 recipes ranging from appetizers to soups, entrees to desserts. Each recipe has been tested and analyzed to meet the guidelines established by the National Academy of Sciences in its 1983 landmark report, "Diet, Nutrition and Cancer." Copies of *An Ounce of Prevention*, winter

volume, are available for a \$6 donation, which includes shipping and handling. Send a check, payable to AICR, to AICR Cookbook, Dept. CB1, Washington, D.C. 20069.

- "Educators, Schools and Child Abuse" is the title of a 30-page booklet published by the National Committee for Prevention of Child Abuse. The theme of the booklet is expressed in the press release: "Schools could be a primary source of protection for children when it comes to detecting and preventing child abuse. Could be, but they aren't." A single copy costs \$3.50. Write NCPCA, Publications, 332 S. Michigan Ave., Suite 950, Chicago 60604.

- The Nutrasweet Center will provide physicians with copies of an article from the December 1985 issue of *Reader's Digest*. Title of the article is "Artificial Sweeteners: Are They Safe?" The Center invites phone calls from physicians who wish additional information on sweeteners. Write Nutrasweet Center, P.O. Box C1115, Skokie, Ill. 60076 or call (800) 321-7254.

- "Safety and Health Aspects of Microwave Ovens" is the subject of an 18-page booklet published by the American Council on Science and Health. The text discusses the dangers of microwave ovens and indicates that leakage of radiation from the oven is the least hazard. However, proper safety precautions will minimize the dangers. Knowledge of the hazards and the precautions are highly important adjuncts for safe operation. Send a SASE (#10, 39¢ postage) to Microwave Oven Report, ASCH, 47 Maple St., Summit, N.J. 07901.

- "Osteoporosis" is the title of a 36-page booklet published by the American Council on Science and Health. Adequately covered are the characteristics of the disease, its extent, and the risk factors according to sex and race. The dietary and pharmaceutical methods of prevention and the wisdom of depending on medical consultation in planning the preventive process are explained in detail. Use of

estrogens after menopause is fully discussed. The booklet is designed both for professional review and for lay education. Send a self-addressed, stamped (39¢), business-size (#10) envelope to Osteoporosis Report, ASCH, 47 Maple St., Summit, N.J. 07901.

## 'HealthScan' Broadcasts Focus Exclusively on Health Topics

"HealthScan," a public affairs/news radio series focusing exclusively on health topics, has been introduced by the Broadcast Services Division of Gray and Company, a Washington, D.C., public relations firm.

The service is designed to reach increasingly sophisticated consumers and opinion leaders with health care news and messages. It is being offered to health care businesses, professionals and associations to get their messages to listeners in top radio markets.

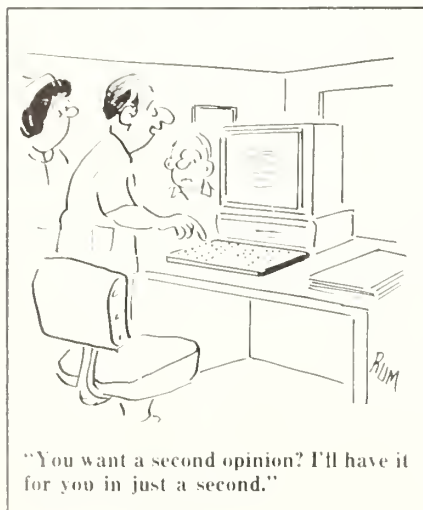
"HealthScan" is being distributed on the fourth Friday each month in cassette form to 600 subscribing stations and, via satellite, to 1,600 AM and FM affiliates of the Mutual Broadcasting and National Public Radio stations.

(In Indiana, satellite transmission of "HealthScan" is being received by National Public Radio stations in five cities and by Mutual stations in 26 cities. In addition, the cassette "hard copies" are being distributed to stations in 16 Indiana cities.)

## Applications Being Accepted for Ileitis-Colitis Awards

The National Foundation for Ileitis and Colitis announces that researchers wishing to apply for grants or research training awards for NFIC's 1986-87 fiscal year must submit applications by Aug. 1, 1986.

Full information on grants and awards may be obtained by writing or phoning NFIC, 444 Park Avenue South, New York, N.Y. 10016 - (212) 685-3440.





## Artificial Feeding of Comatose Patient Must Continue, Court Rules

A hospital should be enjoined from discontinuing artificial feeding of a comatose patient, a Massachusetts trial court has ruled.

The 48-year old patient suffered a ruptured aneurysm leading to coma three years ago. Although he was not brain dead, he was in a comatose, vegetative state. When the hospital refused to comply with the family's request that it terminate feeding the patient through a gastrostomy tube, the patient's family petitioned the court to require the hospital to do so.

In its final ruling, the court ordered do not resuscitate and non-aggressive treatment instructions reinstated. However, it enjoined the hospital from discontinuing feeding the patient and enjoined any nursing home or other facility the patient might be transferred to from removing such feeding. In its 45-page opinion, the trial court found that the artificial feeding process was neither highly invasive nor painful, and that removal of feeding may cause a painful death.

The court found that the patient would himself have requested discontinuation of food or any other life-sustaining treatment, had he been competent. Testimony by the patient's relatives established that he had on several occasions made it clear his in-

tention that he did not want to be kept alive artificially if his condition ever became hopeless.

The court found that the patient's will in the matter was outweighed by the state's interest in preserving his life. The court distinguished this case from other cases concerning caring for the comatose and terminally ill, noting that the patient was not terminally ill or at the end of his normal span of years. The court said that the outcome of the case should not rest on the quality of life the patient was experiencing.

The court concluded that it was ethically inappropriate to cause the preventable death of the patient by the deliberate denial of food and water, regardless of the patient's intentions. — *Brophy v. New England Sinai Hospital, Inc.*, Docket No. 85E0009-G1 (Mass. Commonwealth Ct., Oct. 21, 1985) (Courtesy of The Citation, Feb. 1, 1986)

## Omission

A scientific article published in the January issue of *INDIANA MEDICINE*, "Esophageal Adenocarcinoma: Case Report," should have identified the primary author, Dr. Mark W. Bradley, as a Family Practice resident-in-training at Methodist Hospital, Indianapolis. Dr. John C. Lowe of Indianapolis was the co-author.

## National Foundation Formed to Support EDS Victims

The Ehlers-Danlos National Foundation has been formed to provide knowledge, understanding and support for victims of this syndrome and for their families. The Foundation is encouraging medical school instruction about the disease, as well as instruction for nurses.

Early diagnosis is important since, while the disease has no cure, early recognition and symptomatic treatment is very important.

The Foundation's address is P.O. Box 1212, Southgate, Mich. 48195—(313) 282-0180.

## Electrologists Eligible for 'Certified' Designation

"Certified Clinical Electrologist" (C.C.E.) is a new title electrologists will be eligible to use after passing a national competence-based examination supported by the Society of Clinical & Medical Electrologists. Guidelines for the examination are specified by the National Commission for Health Certifying Agencies.

The new certification process will provide an additional consideration to be used by persons who wish to have unwanted hair removed by the electrolysis method.

## Physician Recognition Awards

The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned, and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.



Babcock, James L., Bluffton  
Bennett, Thomas W., Fort Wayne  
Fondak, Alexander A., Kokomo  
Goode, Robert J., Columbus  
Graham, Nelson V., Evansville  
Huang, Tsau-Yuen, Gary

Joshi, Prakash N., Marion  
La Salle, Robert M., Wabash  
Marks, John S., Indianapolis  
Mentendiek, Mary A., Indianapolis  
Pitts, Neal C., Bluffton



Purcell, Lawrence T., Bluffton  
Silbert, Robert K., Indianapolis  
Song, Yong-Chul, Whiting  
Walker, Jan M., Fort Wayne  
Weaver, R. Wyatt, Angola  
Weinbaum, Marc E., Anderson



# NEWS NOTES

## Here and There...

Dr. George W. Sorrells of Bedford, a fellow of the American Academy of Pediatrics, has received the Academy's Pediatrics Review and Education Program Fellowship Award, presented to members who have actively participated in the program at least six consecutive years.

Dr. Robert J. Warren of Richmond, chief of pediatrics at Reid Memorial Hospital, has been named Reid's director of medical education.

Dr. Willis W. Peelle is the new chief of the medical staff, Howard Community Hospital, Kokomo; Dr. Charles F. Smith is vice-chief, and Dr. Dennis R. Stuart is secretary.

Dr. Barney R. Maynard, an Evansville urological surgeon, is a new fellow of the American College of Surgeons.

Dr. Julian D. Present of Evansville has been elected to fellowship in the American Geriatrics Society.

Dr. Polly G. Nicely, chief physician for the Indiana Women's Prison, has been re-elected chairman of the board of directors of the Indianapolis YMCA.

Dr. Ronald Louks of Dunkirk has been board-certified in Internal Medicine; before establishing his practice in Dunkirk last fall, he was chief resident in internal medicine at Ball Memorial Hospital.

Dr. Gordon R. Huey of Indianapolis is a new diplomate of the American Board of Obstetrics and Gynecology.

Dr. Clemente F. Oca, a Jeffersonville cardiologist who is internationally known for his work in gastric bypass procedures, recently attended the Sixth Annual Congress of Japanese Society on Obesity in Tokyo.

Dr. Clarence E. Ehrlich of Indianapolis has been reappointed chairman of the Subcommittee on Gynecologic Oncology, American College of Obstetricians and Gynecologists.

Dr. Marsha L. Muldrow of Gary, addressing a local senior citizens group in March, discussed skin care for the elderly.

Dr. Steven C. Beering, president of Purdue University, has been elected to the board of directors of the Northern Indiana Public Service Co.

Dr. John W. Schurz of South Bend was guest speaker at the March meeting of the Alzheimer's Disease Family Support Group of Niles.

Dr. Fred O. Butler of Indianapolis recently presented an update on the oncology-hematology subspecialty to the medical staff of Hendricks County Hospital.

Dr. Richard Mellroy Jr. of Columbus discussed sexual dysfunctions at a recent meeting at Bartholomew County Hospital sponsored by the American Diabetes Assn.

Dr. Michael L. Neely of Danville discussed hospice care during a March meeting in Plainfield of the "Make Today Count" support group.

Dr. John B. Moore of Indianapolis discussed cosmetic surgery during the March session in Anderson of Community Hospital's Women and Health Program.

Dr. Robert K. Spear of Evansville was guest speaker at the March meeting of the Evansville Tri-State Chapter, Lupus, Inc.

Dr. Jeffrey C. Darnell of Indianapolis was guest speaker at the March meeting of the Speedway Lions Club; he discussed "Geriatrics: More Than the Nursing Home."

Dr. Elaine P. Habig of Lebanon explained the cardiac rehabilitation program at Witham Memorial Hospital to members of the local Rotary Club in March.

Dr. R. Kelly Chambers is the new president of the medical staff at Community Hospital, Anderson; Dr. Bert I. Davis is chief of staff, Dr. William J. Tierney is vice-president, and Dr. Stephen J. Wright is secretary-treasurer.

Dr. Stephen C. Watson of Indianapolis is a new diplomate of the American Board of Emergency Medicine and is scheduled to be named a fellow of the American College of Emergency Physicians.

Dr. Jerry L. House of Indianapolis was an instructor at a recent Surgeons Training Workshop in Denver, sponsored by the Cochlear Corporation; the workshop was designed to train other surgeons to do the 22 channel cochlear implant.

## Hartford Foundation Offers Geriatric Awards

The John A. Hartford Foundation has established the Geriatric Faculty Development Awards for 1987-88. Awards will be granted to medical school faculty members who wish to retrain in geriatrics and subsequently return to their respective schools.

Harvard Medical School, Johns Hopkins School of Medicine, Mt. Sinai School of Medicine and UCLA School of Medicine will be the principal clinical and research sites. Training programs will begin July 1, 1987. Deadline for applications is May 30, 1986; appointees will be notified by October 1, 1986.

Full information and application details may be obtained by contacting the Program Administrator, Hartford Geriatric Faculty Development Awards Program, The John A. Hartford Foundation, 405 Lexington Ave., New York, N.Y. 10174—(212) 661-2828.

### Let Us Know!

Send your news items and comments to the Editor, INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis 46208.



"It's all pay TV. Your physical fitness pays for watching too much of it."

## Indiana Court Upholds Involuntary Manslaughter Convictions of non-M.D.s

Convictions of charges of involuntary manslaughter, reckless homicide, and unlawful practice of medicine were supported by evidence of conduct that contributed to a patient's death from complications of untreated breast cancer, an Indiana appellate court has ruled.

The patient found a lump in her breast in February or March 1983. In June, she sought the aid of two members of her church, neither of whom was a physician, because of other health problems. The couple had a business providing naturopathic health care. They treated the patient with a program including nutritional supplements, pulmentations, enemas, and colonic irrigations.

When the patient told the couple about the breast lesion, the woman, who was a registered nurse, set up an appointment with a physician. The physician prescribed laetrile, to be administered by the woman. The couple also continued the previous treatment.

In August, the patient's husband took her to see a physician. She was hospitalized and treated for heart failure, which may have resulted from toxic levels of potassium given as part of the nutritional program. She was also treated for lung cancer, sepsis, and breast cancer that had metastasized to the lung. She suffered from lack of blood oxygen, pulmonary edema, and an electrolyte imbalance. The physician believed that her only chance for survival was chemotherapy, but because of her critically weakened condition, physicians did not believe she could survive administration of the drugs. They were forced to let the cancer run its course. The patient died in September 1983. The couple who treated her were tried and convicted.

On appeal, the couple contended, among other things, that their convictions were not supported by sufficient evidence. The court pointed out that although they were not licensed physicians and did not act under the supervision of a physician, the couple exam-

ined the patient, diagnosed her condition, and prescribed treatment, conduct that had constituted the practice of medicine. Billing statements specifying the services provided were admitted as evidence. Uncontradicted evidence was presented that the treatments created an electrolyte imbalance.

The court found that there was sufficient evidence that the couple engaged in reckless conduct that caused the patient's death. The court affirmed the trial court's judgment. — *Graham v. State of Indiana*, 480 N.E.2d 981 (Ind. Ct. of App., July 31, 1985). (Courtesy of *The Citation*, March 1, 1986)

## New ISMA Members

The following physicians were welcomed in March as new members of the Indiana State Medical Association:

John S. Banas, M.D., Fort Wayne, obstetrics and gynecology.

Bernard J. Begley, M.D., South Bend, occupational medicine.

Roger P. Blitz, M.D., New Castle, orthopedic surgery.

Margaret J. Blythe, M.D., Indianapolis, pediatrics.

Jacqueline Carter-Matsapola, M.D., Gary, neurology.

Michael K. Crider, M.D., Muncie, dermatology.

Thomas W. Dumas, M.D., Fort Wayne, otorhinolaryngology.

Michael A. Englert, M.D., South Bend, neurology.

Dan C. Galloway, M.D., Highland, general practice.

John H. Hess, M.D., Richmond, psychiatry.

Anthony H. Horan, M.D., South Bend, urological surgery.

Frank A. Hutnicke Jr., M.D., Indianapolis, anesthesiology.

Bharat S. Jailwala, M.D., Muncie, therapeutic radiology.

Kishan T. Kishan, M.D., Fort Wayne, vascular surgery.

Peter M. Knapp, M.D., Indianapolis, urological surgery.

Richard S. Longley, M.D., Merrillville, internal medicine.

Nancy K. Madden, M.D., South Bend, obstetrics and gynecology.

Terry W. Marsh, M.D., Muncie, dermatology.

Jyoti J. Mehta, M.D., Lawrenceburg, internal medicine.

Mohammad R. Nekoomaram, M.D., Kokomo, orthopedic surgery.

Leonard W. Ostrowski Jr., M.D., Portage, family practice.

Vimal B. Pathak, M.D., Valparaiso, general surgery.

Philip E. Rathbun, M.D., Munster, diagnostic radiology.

Stephen R. Ribaud, M.D., South Bend, physical medicine and rehabilitation.

Ronald A. Sapiente, M.D., South Bend, therapeutic radiology.

Patrick J. Shea, M.D., Valparaiso, cardiovascular diseases.

Gerald R. Yarnell, M.D., Indianapolis, anesthesiology.

Cheng Yin, M.D., Ashley, general practice.

## Residents:

J. Mark Brint, M.D., Indianapolis, internal medicine.

Jonathan D. Condit, D.O., Muncie, family practice.

Roberto J. Darroca, M.D., Muncie, family practice.

Steven A. Foley, M.D., Indianapolis, obstetrics and gynecology.

Michael A. Gunter, M.D., Indianapolis, general surgery.

Latif M. Hamed, M.D., Indianapolis, ophthalmology.

Samuel D. Krutz, M.D., Indianapolis, anesthesiology.

Mary I. McAteer, M.D., Indianapolis, pediatrics.

Robert E. McCallister, M.D., Indianapolis, dermatology.

Jeanne M. Rowe, M.D., Indianapolis, internal medicine.

Alan P. Sawchuk, M.D., Indianapolis, general surgery.

Richard D. Schroeder, M.D., Indianapolis, orthopedic surgery.

John S. Tetrick, M.D., Indianapolis, family practice.

Joseph F. Woschitz, M.D., Indianapolis, ophthalmology.



# OBITUARIES

## **Bonnell M. Souder, M.D.**

Dr. Souder, 94, a retired Auburn general practitioner, died Feb. 14 in an Auburn nursing home.

She received the M.D. degree in 1913 from the University of Illinois.

Dr. Souder served as an ISMA delegate during the late 1950s, representing the DeKalb County Medical Society. She became a member of the ISMA Fifty Year Club in 1963.

## **Alfredo Q. Paje, M.D.**

Dr. Paje, 70, a retired Greensburg general practitioner, died Dec. 11, 1985.

He received the M.D. degree in 1939 from the University of St. Tomas College of Medicine. He served in the Philippine Army as a surgeon from 1941 to 1947.

Dr. Paje was a former secretary of the Decatur County Medical Society.

## **Robert L. Haller, M.D.**

Dr. Haller, 65, a Kempton general practitioner, died March 4 at Tipton County Memorial Hospital.

He was a 1945 graduate of Indiana University School of Medicine. He served in the Army from 1946 to 1948.

Dr. Haller had practiced in Fort Wayne and Churubusco before moving to Kempton. He was a former secretary and president of the Tipton County Medical Society.

## **Harold J. Halleck, M.D.**

Dr. Halleck, 83, a retired Winamac physician, died Feb. 12 at his home.

He was a 1926 graduate of Indiana University School of Medicine and was an Army veteran of World War II. He retired from practice in 1977.

Dr. Halleck was a former Pulaski County health officer and a former Winamac health officer. The Winamac Chamber of Commerce named its Outstanding Community Service Award after him and made him the first recipient in 1979. He became a member of the ISMA Fifty Year Club in 1976.

## **Irvin H. Scott, M.D.**

Dr. Scott, 74, a retired Sullivan surgeon, died March 30 at Mary Sherman Hospital in Sullivan, where he had formerly been chief of the surgical staff.

He was a 1936 graduate of Rush Medical College.

Dr. Scott, a former president of the Sullivan County Medical Society, was a founder and past president of the American Fracture Association and was a member of that group's board of governors at the time of his death.

His professional affiliations also included the American College of Surgeons, International College of Surgeons, and the American Society of Abdominal Surgeons.

## **Donald I. Dean, M.D.**

ISMA has been notified of the death of Dr. Dean, a retired Rushville ophthalmologist. He died Sept. 27, 1985 at the age of 76.

He was a 1931 graduate of Indiana University School of Medicine and was an Army veteran of World War II.

Dr. Dean was a former president of the Rush County Medical Society and was a member of the ISMA Fifty Year Club.

## **James G. Bledsoe, M.D.**

Dr. Bledsoe, 78, a retired New Castle general practitioner, died March 2 in Naples, Fla.

He was a 1935 graduate of Indiana University School of Medicine. He served in the Army-Air Corps during World War II.

Dr. Bledsoe, who retired from practice in 1975, was founder of the Henry County Clinic. He was a member of the ISMA Fifty Year Club.

## **William B. Carr, M.D.**

Dr. Carr, 43, a Beaumont, Texas, family physician who formerly practiced in Fort Wayne, died Feb. 21 in Beaumont.

He was a 1967 graduate of Indiana University School of Medicine and served in the Navy from 1969 to 1971.

Dr. Carr practiced in Fort Wayne from 1971 to 1976. He was a member of the American Academy of Family Physicians.

## **Seymour L. Pollack, M.D.**

Dr. Pollack, 70, a retired New Castle physician, died March 11 at University Hospital, Indianapolis.

He was a 1941 graduate of the University of Illinois College of Medicine and was an Army veteran of World War II.

Dr. Pollack, who retired in 1983, was certified by the American Board of Psychiatry and Neurology. He was a member of the American Psychiatric Association.

## **Memorials: Indiana Medical Foundation**

The Indiana Medical Foundation, Inc. was formed by the Indiana State Medical Association "for religious, charitable, scientific, literary or educational purposes." It provides financial assistance to support the educational mission of INDIANA MEDICINE.

Contributions made to the Foundation are deductible by donors in accordance with the Internal Revenue Code. Gifts are deductible for Federal estate and gift tax purposes.

The Foundation is pleased to acknowledge the receipt of gifts in remembrance of the following individuals:

Edwin W. Dyar, M.D.  
Maurice E. Glock, M.D.  
Guy A. Owsley, M.D.  
Wilbert Smith  
Eugene S. Rifner, M.D.

Elsie A. Reid  
Lester D. Bibler, M.D.  
Lloyd A. Vogel, M.D.  
Arvine G. Popplewell, M.D.  
Mildred Ramsey



# COMMERCIAL ANNOUNCEMENTS

**50% OFF PREVIOUSLY OWNED MEDICAL.** laboratory, office, x-ray, ultrasound equipment in excellent condition. We buy, sell, broker and repair. Appraisals by Certified Surgical Consultants. Medical Equipment Resale, Inc., 24026 Haggerty Road, Farmington Hills, Michigan 48018—(313) 477 6880.

**FACULTY POSITIONS—Indiana University School of Medicine.** Two faculty positions will be available approximately July 1, 1986. One applicant must have completed a residency in Thoracic Surgery; the individual will be involved in cardiac surgery and will be responsible for the teaching of medical students and residents for clinical and experimental research; and the management of patients with Surgical Thoracic Disease. One applicant must have completed a residency in General Surgery and Urology and have had experience in Transplantation Surgery; this position also has the responsibility for teaching of medical students and residents, for clinical and experimental research, and for the management of patients who are to/or have received organ transplants. Each position is expected to develop a self-supporting research program. Contact in writing: Jay L. Grosfeld, M.D., Chairman, Department of Surgery, Indiana University School of Medicine, 545 Barnhill Drive, EM 244, Indianapolis, IN 46223. Indiana University is an affirmative action, equal opportunity employer.

**LUXURY OCEANFRONT PRIVATE HOME** at Hilton Head Island, S.C., on remote beach; 4 BR, 4 bath, huge LR, screened porch, DR, kitchen, sundeck, golf, tennis. Rent weekly from Atlanta owners. (404) 355-6049 or 658-8010.

**LYTE TEK LAB MACHINE FOR SALE:** This lab machine performs K + and Na. It is in good condition and is available immediately. Make an offer. Call (317) 787-4513 for inquiries.

**FAMILY PRACTICE OFFICE** complete and very nice, plus x-ray. Very reputable practice 2 miles north of South Bend and 10-15 minutes from 2 major hospitals. 5 minutes from Notre Dame. Solo; could be a partnership set-up. Gross 6 figures. For information, call (219) 272-6300 or 272-3646.

**MEDICAL PRACTICE SALES AND APPRAISALS:** We specialize in the valuation and selling of medical practices. If interested in buying or selling a medical practice, contact our Brokerage Division at: The Health Care Group, 400 GSB Building, Bala Cynwyd, Pa. 19004—(215) 667-8630.

**INDIANA, North of Indianapolis:** Immediate full time position and directorship in newly renovated emergency department at 135 bed facility. Hourly salary, flexible scheduling, malpractice insurance provided. For more information, call 800-253-1795 or in Michigan 800-632-3496; or send CV to Emergency Consultants, Inc., 2240 South Airport Road, Room 20, Traverse City, MI 49684.

**PEDIATRIC PRACTICE** for sale. Immediately available, northside Indianapolis. Well established. Completely equipped office. Write P.O. Box 40401, Indianapolis, Ind. 46240, or call (317) 251-4819 (after 6 p.m.).

**OFFICE SPACE AVAILABLE:** Franklin, Indiana. Lease or sell. 1500 sq. ft. new medical office ready for occupancy. Waiting room, business office, consultation room, nurses station, four exam rooms. Cathedral ceilings. Skylights. One minute drive west of Johnson County Memorial Hospital in rural setting. Beautiful view. For additional information, please call (317) 736-7310.

**HOME NEAT HOME—**Complete cleaning by Kim, a lady who knows how to wipe that dirty look off your space. Experienced, satisfaction guaranteed. Free estimates. References on request. Indianapolis area only. Please call Kim Hancock, (317) 844-8473.

**AMBITIOUS G.P. NEEDED** to take over an active, busy and interesting General Practice, north central Indiana. Retiring. Phone 219-772-4534.

**EMERGENCY MEDICINE POSITION AVAILABLE:** Excellent opportunity for experienced emergency physician to join career emergency group practicing in northwestern Indiana, near Chicago. If you have over 4,000 hours experience, please contact Laurie Perkins at (312) 327-0777.

**EMERGENCY MEDICINE** Position Available: Opportunity for experienced Emergency Physician to work weeknights 6 p.m. to 8 a.m., Kendallville, Ind. Contact Mr. John F. Ling Jr., Administrator—(219) 347-1100, ext. 120.

**OFFICE SPACE AVAILABLE:** Greenwood Professional Park. Excellent accommodations in an established medical complex. Attractive. Well landscaped setting. Plenty of convenient parking. Complete laboratory and radiological services on premises. Centrally located in the fastest growing area of Indiana. Two miles from new University Heights Hospital. Ideal location for the individual practitioner or as an additional location for group practices. Ready for occupancy. No leasehold expenses required. For additional information, please call (317) 881-3565.

**INDIANA—Position immediately available.** New walk-in medical facility. Guaranteed salary. Fee for service incentives. Regular hours. Please reply to P.O. Box 461, Terre Haute, Indiana 47807.

**FOR SALE: 1981 Fiat X 1/9,** metallic blue, only 42,500 miles. Removable Targa top, 5-speed, AM/FM radio/cassette, rust-proofed, new battery. \$2,995. Call (317) 844-9922 evenings, weekends.

**OUTSTANDING EMERGENCY MEDICINE Position—**Available immediately but actual starting time negotiable. Experienced Emergency Physician wanted to join private group practice. Fee for service—full and equal benefits and income immediately. Practice located in Anderson, Indiana. Contact Dr. Phillip Pinegar at either (317) 646-8220 or (317) 284-2605.

## PRACTICES AVAILABLE

ALLERGY—Suburban Philadelphia—Excellent opportunity—Very low price.

ALLERGY—Philadelphia area—Very large practice

DERMATOLOGY—Connecticut—Strong Finances.

FAMILY PRACTICE—Philadelphia and suburbs—several practices.

INTERNAL MEDICINE—Arizona—Well equipped.

INTERNAL MEDICINE—D.C. suburb—desirable community.

PEDIATRICS—Northeastern Pa.—Young growing practice.

PEDIATRICS—Colorado—Convenience of a group—Strong finances.

PEDIATRICS—Central New York—Very large practice.

RADIOLOGY—Philadelphia—Large, well established.

SURGERY GENERAL—New Jersey—Attractive practice near New York City.

We specialize in the valuation and selling of medical practices. If interested in buying or selling a medical practice, contact our Brokerage Division at: Health Care Personnel Consulting, 403 GSB Building, Bala Cynwyd, Pa. 19004

## ADVERTISERS INDEX

May 1986

Vol. 79

No. 5

American College of Sports Medicine	471
American Physicians Life	401, 467
Ayerst Laboratories	405-408
Brown Pharmaceutical Co., Inc.	455
Campbell Laboratories	490
Central Pharmaceuticals, Inc.	451
Commercial Announcements	497
Eli Lilly & Company	419
Health Care Personnel Consulting, Inc.	498
Indiana Medical Bureau	443
Journal of Family Practice	431
Knoll Pharmaceutical	446-448
Lincoln National Life	449
Marion Laboratories	465-466
Medical Accounts Group, Inc.	479
Medical College of Ohio	498
Peoples Drug	403
Physicians' Directory	480-488
Physicians Insurance Co. of Indiana	Cover
Roche Laboratories	Covers
Smith Kline & French	445
Upjohn Company	425
U.S. Air Force	474, 490
U.S. Army	437
Veterans Administration	454
Wawasee Spink Condominiums	491
Wyeth Laboratories	426-428

## CARDIOVASCULAR CME AND GOLF!

Aug. 7-8, 1986



Attend an outstanding  
Cardiovascular Medicine  
Continuing Education program!

Play golf at Glengarry, home  
of the LPGA Jamie Farr Classic!

See the world's top golf pros  
challenge historic Inverness  
in the 1986 PGA Championship!

**Write:** Cardiovascular Golf  
Medical College of Ohio  
Office of CME  
C.S. 10008  
Toledo, Ohio 43699

**or call:** 419-381-4237

(For early "birdie" reservation and tee time!)

In accepting advertising for publication, INDIANA MEDICINE has exercised reasonable precaution to insure that only reputable, factual advertisements are included. However, we do not have facilities to make comprehensive or complete investigation, and the claims made by advertisers in behalf of goods, services and medicinal preparations, apparatus or physical appliances are to be regarded as those of the advertisers only. Neither sanction nor endorsement of such is warranted, stated or implied by the association.

EXCERPTS FROM A SYMPOSIUM  
"THE TREATMENT OF SLEEP DISORDERS"<sup>8</sup>

“... highly effective  
for both sleep induction and  
sleep maintenance”

Sleep Laboratory Investigator  
Pennsylvania

“... onset of action is  
rapid... provides sleep with  
no rebound effect to agitate the  
patient the following day”

Psychiatrist  
California

“... appears to have  
the best safety record of any  
of the benzodiazepines”

Psychiatrist  
California

After 15 years, the experts still concur about the continuing value of Dalmane (flurazepam HCl/Roche). It provides sleep that satisfies patients... and the wide margin of safety that satisfies you.

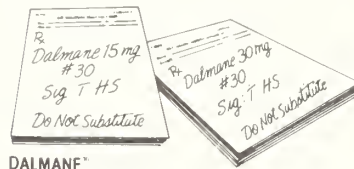
The recommended dose in elderly or debilitated patients is 15 mg. Contraindicated in pregnancy.

**DALMANE<sup>®</sup>**  
brand of  
flurazepam HCl/Roche <sup>®</sup>  
**sleep that satisfies**

15-mg/30-mg  
capsules



**References:** 1. Koles J, et al. *Clin Pharmacol Ther* 12 691-697, Jul-Aug 1971. 2. Koles A, et al. *Clin Pharmacol Ther* 18 356-363, Sep 1975. 3. Koles A, et al. *Clin Pharmacol Ther* 19 576-583, May 1976. 4. Koles A, et al. *Clin Pharmacol Ther* 32 781-788, Dec 1982. 5. Frost JD Jr, DeLucchi MR. *J Am Geriatr Soc* 27 541-546, Dec 1979. 6. Dement WC, et al. *Behav Med*, pp. 25-31, Oct 1978. 7. Koles A, Koles JD. *J Clin Psychopharmacol* 3 140-150, Apr 1983. 8. Tennant FS, et al. Symposium on the Treatment of Sleep Disorders, Teleconference, Oct 16, 1984. 9. Greenblatt DJ, Allen MD, Shader RI. *Clin Pharmacol Ther* 21 355-361, Mar 1977.



**DALMANE<sup>®</sup>**  
brand of  
flurazepam HCl/Roche <sup>®</sup>

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening, in patients with recurring insomnia or poor sleeping habits, in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

**Contraindications:** Known hypersensitivity to flurazepam HCl, pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patients to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Withdrawal symptoms rarely reported; abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, jointness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase, and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

**Dosage:** Individualize for maximum beneficial effect. Adults: 30 mg usual dosage; 15 mg may suffice in some patients. Elderly or debilitated patients: 15 mg recommended initially until response is determined.

**Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl.



Roche Products Inc  
Manati, Puerto Rico 00701



# #1 FOR SLEEP

After more than 15 years of use, it's #1 for sleep that satisfies. Patients are satisfied because they fall asleep fast and stay asleep till morning.<sup>1-8</sup> And *you're* satisfied by the exceptionally wide margin of safety.<sup>7-9</sup> As always, caution patients about driving or drinking alcohol.

Please see preceding page for summary of product information.

**DALMANE<sup>®</sup>**  
brand of  
flurazepam HCl/Roche <sup>®</sup>  
**sleep that satisfies**





JUNE 1986

VOL. 79

NO. 6

# INDIANA MEDICINE

The Journal of the Indiana State Medical Association

HEMOFILTRATION:

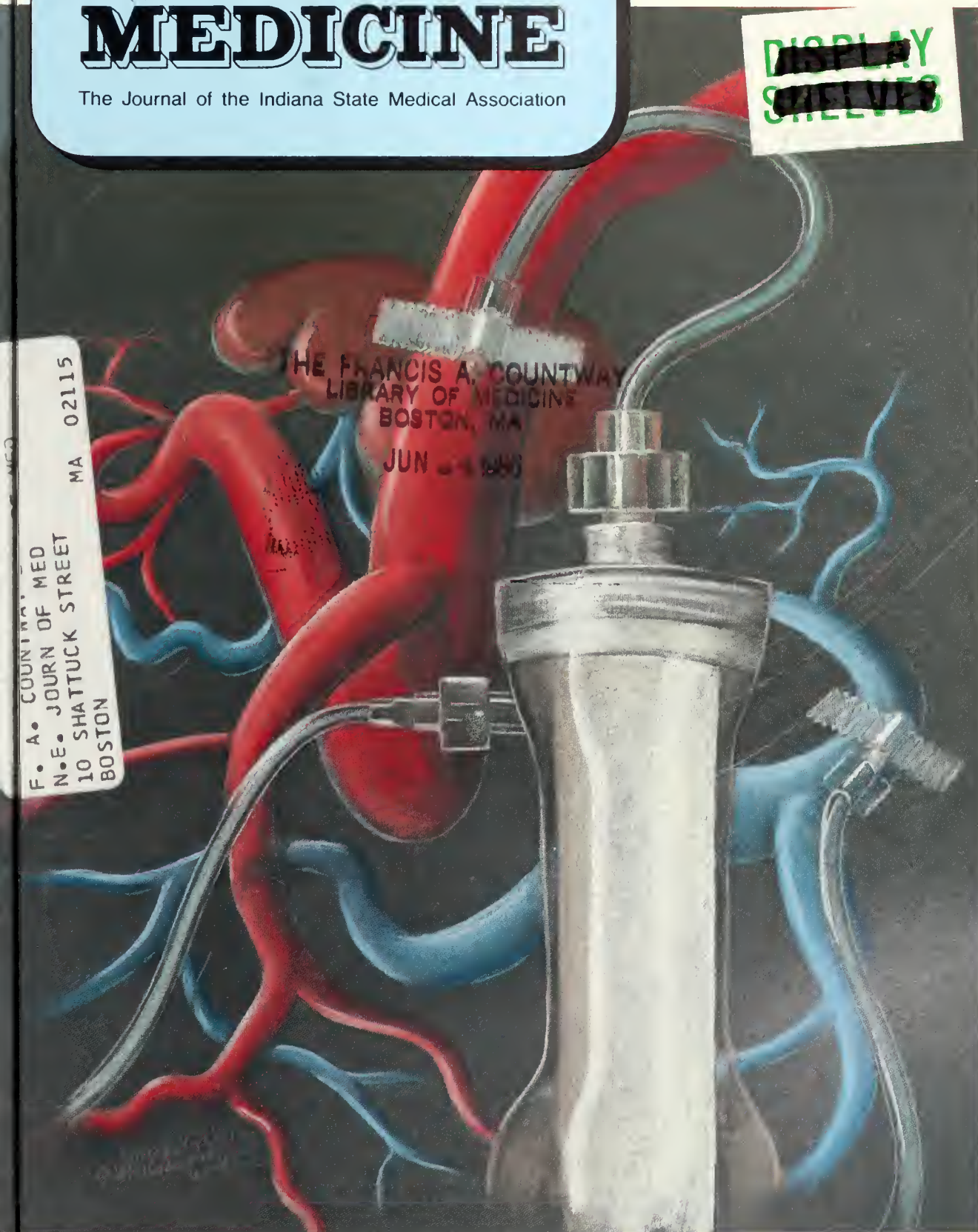
*Renal Replacement in the  
Critically Ill Patient*

DISPLAY  
SHELVES

THE FRANCIS A. COUNTRYWAY  
LIBRARY OF MEDICINE  
BOSTON, MA  
JUN 24 1986

F. A. COUNTRYWAY, M.D.  
N.E. JOURNAL OF MED  
10 SHATTUCK STREET  
BOSTON

MA 02115





## **“...Your financial security specialists are on call”**

American Physicians Life believes a physician's financial security deserves specialized attention. That's why our products and services are designed with the doctor in mind. Our comprehensive portfolio of services, including life insurance, professional disability income coverage, qualified plans and tax-deferred annuities, is customized to meet your personal financial planning needs as well as those of your professional corporation.

Let American Physicians Life secure your financial planning program—that's our specialty!

**For more information contact:**

Williams/Townsend Associates  
8900 Keystone Crossing, Suite 500  
Indianapolis, Indiana 46240  
(317) 844-3119

**Endorsed by the  
Indiana State Medical Association**



**AMERICAN PHYSICIANS LIFE**

Bates Drive, P.O. Box 281  
Pickerington, Ohio 43147  
Telephone (614) 864-3900

Toll-free in Ohio, 1-800-282-7515  
Toll-free outside Ohio, 1-800-742-1275



# INDIANA MEDICINE

THE FRANCIS A. COUNTWAY  
LIBRARY OF MEDICINE Vol. 79, No. 6  
BOSTON, MA JUNE 1986

JUN 24 1986

Devoted to the interests of the medical profession and public health in Indiana since 1908.

## SCIENTIFIC ARTICLES

CME	
Stages I and II Breast Cancer	512
The Metastatic Malignant Neck Mass	516
ADULT CRITICAL CARE	
Hemofiltration	522
Pericardial Based Thymoma: Diagnosis by Fine Needle Aspiration	526
Chronic Ear Disease and Cerebrospinal Fluid Otorrhea	531
Pulmonary Blastomycosis	536

## FEATURES

Abbott Offers AIDS/HTLV-III Videotapes	544
Review: 'AIDS in the Mind of America'	548
Amendments to the ISMA Constitution	549
Meet ISMA's New Executive Director	565
The Link Between Cholesterol, Coronary Disease	569
ISMA Roster Available	574

## DEPARTMENTS, MISCELLANEOUS

Medical Museum Notes	500
What's New?	502
Future File	504
Cancer Corner	506
Public Health Notes	511
Auxiliary Report	546
Book Reviews	548
CME Quiz	555
New ISMA Members	567
Drug Names	569
ISMA's Leadership	571

USPS 284-440  
ISSN 0746-8288

OFFICE OF PUBLICATION:  
3935 N. Meridian St.,  
Indianapolis, Ind. 46208  
Tel: (317) 925-7545

INDIANA MEDICINE (ISSN 0746-8288) is published monthly by the Indiana State Medical Association. Second-class postage paid at Indianapolis, Ind.  
POSTMASTER: Send address changes to INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis, Ind. 46208.  
Yearly subscription rates: \$20 domestic, \$22 Canada, \$23 foreign. Library rates: \$18 domestic, \$20 Canada, \$21 foreign. Senior ISMA members and full-time

medical students—\$10. Single copies not available. Subscriptions are renewable annually.

Views expressed do not necessarily reflect the opinions of the editors. No copyright is claimed, unless specifically indicated. Copyright rests solely with authors, who are responsible for statements made in their articles. Scientific and editorial contributions are accepted for exclusive publication, subject to editorial requirements. Publication deadline: 1st day of month preceding month of issue. Instructions for authors available upon request.

All issues since 1967 are available on microfilm from University Microfilms International, 300 N. Zeeb Rd., Ann Arbor, Mich. 48106. Indexed in Index Medicus and Hospital Literature Index.

Advertising rates and data available upon request.

## EDITOR

Frank B. Ramsey, M.D.

## MANAGING EDITOR

Martin T. Badger

## CIRCULATION MANAGER

Sheryl A. Mahoney

## BUSINESS MANAGER

Richard R. King

## EDITORIAL BOARD

Alvin J. Haley, M.D.

Alan T. Marty, M.D.

(Terms expire Dec. 31, 1986)

Thomas J. Conway, M.D.

I.E. Michael, M.D.

(Terms expire Dec. 31, 1987)

Elton Heaton, M.D.

Vacant

(Terms expire Dec. 31, 1988)

Kevin A. Ault

Richard E. Blackburn

Robert S. Flint II

(Terms expire Dec. 31, 1986)

## CONSULTING EDITORS

Steven C. Beering, M.D., Charles A. Bonsett, M.D., Rodney A. Mannion, M.D., Lall G. Montgomery, M.D., Paul S. Rhoads, M.D., W.D. Snively, M.D., I.W. Wilkens, M.D.



## ABOUT THE COVER

This month's Adult Critical Care article focuses on the use of hemofiltration, a new extracorporeal process by which fluid, electrolytes and molecules are removed from renal patients by ultrafiltration. This is done by connecting a hollow fiber type hemofiltration cartridge to the patient's vascular system.—DRAWING BY BRENDA KESTER, MEDICAL MEDIA PRODUCTIONS, METHODIST HOSPITAL OF INDIANA

# MEDICAL MUSEUM NOTES

CHARLES A. BONSETT, M.D., Indianapolis



**T**HE INDIANA MEDICAL COLLEGE was organized in 1869 and held its first session of lectures in the old State Capitol Building, which was later razed to make way for the present structure. By the time the second session of lectures commenced in January 1870, the medical school had its own building (which was razed about 20 years ago), this being located on Delaware Street, across from the Marion County Courthouse.

The Indiana Medical College was the brainchild of a small group of physicians, members of the Indiana State Medical Society, who felt the time had come for Indiana to have its own medical school. This view was not shared by many Indiana physicians, nor by the State Legislature. Dr. John S. Bobbs (1809-1870), elected to be dean of the school, had been its foremost proponent. His appointment as dean was the culminating achievement of his distinguished career.

On the occasion of initiating the second session of lectures in the school's own building on Jan. 15, 1870, Dr. Bobbs gave an introductory address in which he expressed his views on the need for formal medical education in Indiana and his own philosophical concepts. This address was printed at the request of a student committee and one copy at least has been preserved, thanks to the interest and foresight of Dr. G.W.H. Kemper of Muncie, who had his own copy bound, together with his 1866, '67, '68 and '69 copies of the *Transactions of the Indiana State Medical Society*. This page of Notes presents selected excerpts from this address:

"Gentlemen: The duty has been devolved upon me to inaugurate the Indiana Medical College. It were wiser to have placed the subject in abler hands; but as an early and earnest friend of the enterprise, I do not feel at liberty to decline it..."

\*\*\*

"There are probably 3,000 regular physicians engaged in the active duties

of the profession in Indiana. Not exceeding two per cent of these received the advantages of a regular medical education in the state. The others have been indebted to facilities afforded by other states for all the benefits they have received in this particular; or



**'Be as Prompt to Accept  
the Responsibilities as  
to Covet the Rewards  
of Your Profession ...'**

—John S. Bobbs, M.D.  
Jan. 15, 1870

have aimed to qualify themselves for the practice of medicine and surgery without availing themselves of these advantages..."

\*\*\*

"...There is not a state in the Union with the population, intelligence and wealth of Indiana without a Medical College. I believe there is not a civilized community in the world, where a million and a half of souls are under one government, without provision for educating their physicians; while some of the most distinguished and venerable Medical Colleges in existence have reached their commanding position in small communities, numbering but a tithe of the population of Indiana; and all the brilliant lights exalted in the cities of London, Paris and Vienna have not dimmed the constellation of eminent teachers that cluster around the school of the little

town of Munich. Thus, reason and experience concur in demonstrating that other elements than great metropolitan charities are essential to the construction of well ordered institutions for the education of physicians..."

\*\*\*

"The subject of medical education in Indiana is eminently a practical one. It is not the question of determining how to educate the most thoroughly qualified physicians; but how to replenish the annual waste in our ranks, and elevate the existing standard of qualifications so that all its members may be induced to reach a higher plain of ability and usefulness. Individual eminence in the profession is less important than general respectability grounded on average attainments..."

\*\*\*

"The advance in the profession generally must be accompanied, if not preceded, by a ready access to all who enter it, to the means of acquiring the proper qualifications..."

\*\*\*

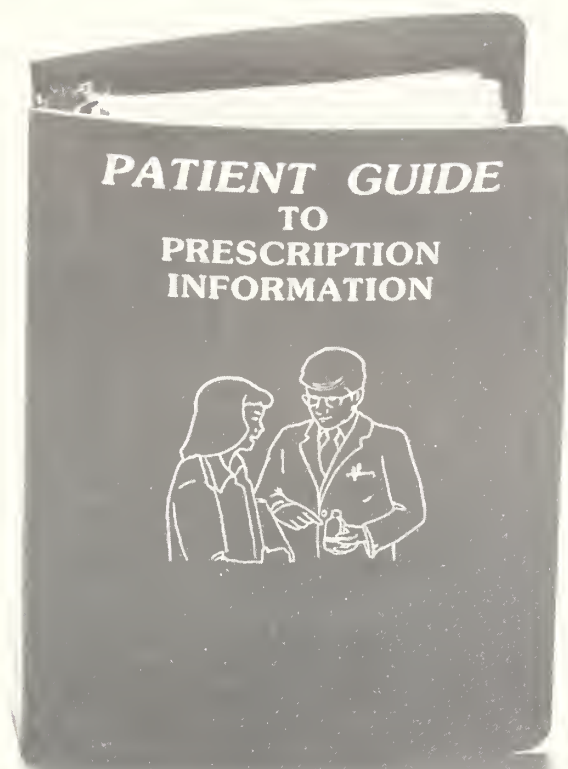
"The student who enters upon the study of Medicine ... must be reconciled to hard work and plenty of it..."

\*\*\*

"Gentlemen, be proud of your profession, and let the profession be proud of you. Maintain that character, and you need court neither braided garments nor tinsel ornaments to give you position. The modest oak, whether retired to the barren plain, or hid in the densest forest, is hunted out when strength and durability is required. Wherever planted, stand like the solid oak, and nothing but a bolt from the heavens can rive your hearts or destroy your usefulness..."

\*\*\*

"Be as prompt to accept the responsibilities as to covet the rewards of your profession. And in all things bear yourselves as becomes the members of a Guild ancient as civilization and widespread as the civilized world."



## This book about drugs is different... it's written in English

Patients often have questions about their prescription drugs, even after their doctor has taken the time to discuss their medication with them.

That's why every Peoples Drug Store has a copy of the "Patient Guide to Prescription Drugs". It's an authoritative directory that provides the drug information patients need most. It informs them about side effects, dosages, and almost everything they need to know in order to take their medication properly.

And, unlike many books on drugs, it does it all without complicated jargon, using

clear, straightforward writing that's easy to understand. You see, when it comes to helping people get the most from their prescriptions Peoples wants to make sure we're all talking the same language.

*Every Peoples has an unlisted phone that's reserved only for doctors and answered only by pharmacists. Please call your local store to obtain the number.*





# WHAT'S NEW?

Reichert Fiber Optics has a new fiber optic flexible ureteroscope. Comes in two sizes, 7F and 9F. They provide an excellent, high-resolution view of the ureter and renal pelvis. They are totally immersible for chemical disinfection. They are channeled for irrigation and use of accessories such as stone retrieval backs, loops and forceps. They may be introduced through a cystoscope or, with wire guides, may be introduced without the cystoscope through the urethra and into the ureter under vision.

Unimed reports that the Drug Enforcement Agency has completed the rescheduling of the company's antiemetic, Marinol (dronabinol), clearing the way for marketing in the United States. The DEA has moved the drug from Schedule I to Schedule II, where it may be prescribed by physicians. Marinol was approved in June 1985 by the FDA. It relieves the severe nausea and vomiting associated with cancer chemotherapy.

VIVIX Corporation is introducing the PLURIMUS Cardiac Evaluation System. The multifunctional instrument performs 12 lead ECGs, stress tests and full disclosure Holter analyses. The system is sold complete with treadmill and Holter recorder.

Ross Laboratories announces the availability of PROMOD™ Protein Supplement, a concentrated source of high-quality protein. It will provide extra protein to individuals who have increased protein needs and to those who are unable to meet their protein needs with a regular diet. PROMOD may be added to an oral supplement, to an enteral tube feeding and to regular food. It provides 100% of the US RDA for protein (45g) in nine scoops.

Connaught Laboratories announces the availability of HibVAX™ (*Haemophilus b* polysaccharide vaccine), which provides children between the ages of 24 months and 5 years with immunity to *Haemophilus influenzae* type b.

Kodak announces a portable electronic imaging system capable of recording up to 1,000 pictures per second for instant playback in various slow-motion modes. The Ektapro 1000 motion analyzer enables scientists and engineers to record events that happen much too fast for the human eye to perceive. It will provide quick and convenient access to pictures and computer-readable information needed to make fast decisions about high-speed processes.

Hewlett-Packard enters the ambulatory ECG market with a system that features what they believe is one of the most accurate and thoroughly verified patient-analysis programs ever developed for ambulatory ECG. It includes true two-channel analysis and ST-segment measurement. Two analyzers are included with the basic system. The system is lightweight, compact and may be worn comfortably by the patient with a shoulder or belt strap.

Dell Publishing has published a completely revised paperback edition of *A Child Is Born*. The author, Lennart Nilsson, is an honorary Doctor of Medicine at Stockholm University. His co-authors are obstetricians and embryologists. Nilsson is a well known medical and scientific photographer. The book contains almost all new illustrations. The hardcover edition has sold over half a million copies, the paperback over 600,000. *The New Yorker* says: "It quite literally illuminates the mystery of pregnancy without in any way diminishing its splendor." 120 pages, \$12.95.

News of what is new in the medical supply industry is composed of abstracts from news releases by book publishers and manufacturers of pharmaceuticals, clinical laboratory supplies, instruments and surgical appliances. Each item is published as news and does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

The Chattanooga Corporation has developed a mobilization table with additional options for applying spinal traction, either manual or mechanical. The electric/hydraulic Hi-Lo variable height control lowers the table to 25 inches or raises it to 36 inches for the best working height. The TME-3 represents increased versatility in treatment.

Harris/Lanier announces HarrisDesk, a medical word processing package for the personal computer. Perspective™, the richest feature of HarrisDesk, is a soft-key interface which uses the same keys and command language for all system functions. This speeds up the orientation period of the user and allows for easy movement in and out of the word processing function. Perspective is for use on any IBM compatible PC.

Hewlett-Packard won a bronze medal at the International Film and TV Festival for production of "Concepts of Pressure Measurements," a videotape program of direct blood-pressure measurement techniques. The videotape and accompanying manual present basic information on cardiovascular physiology and pressure theory as it relates to the set-up and operation of direct pressure-monitoring transducers and systems.

Gower Publishing has a new book, *Healers and Alternative Medicine*, by Gary Easthope, Senior Lecturer in Sociology, University of Tasmania. The book describes the work of a selection of healers ranging from the psychic surgeons of the Philippines to those who practice medical dowsing, and from spiritualism to the shrine of Lourdes. Recommended for sociologists of health, medicine, and religion and the interested general reader. 151 pages, \$34.50.

Hewlett-Packard is introducing an integrated, cost-effective central monitor with arrhythmia and telemetry options. The HP 78560A Central Monitor is designed for use in all areas of critical care.

**BROWN** THE BROWN PHARMACEUTICAL CO., INC.

2500 West Sixth Street, Los Angeles, CA 90057

For Full Prescribing Information, Please See PDR.



**Android**<sup>®</sup> / **5**<sup>Buccal</sup> / **10**<sup>Oral</sup> / **25**<sup>Oral</sup>  
mg. mg. mg.

Methyltestosterone U.S.P. Tablets

**Android**<sup>®</sup> / **F**

Fluoxymesterone U.S.P. Tablets, 10<sub>mg.</sub>





# FUTURE FILE

## Vascular Surgery

"Controversies and Critical Issues in Vascular Surgery" will be the main subject at the 16th annual Peripheral Vascular Disease Symposium, which meets Sept. 24 to 27 at the Hyatt on Capitol Square in Columbus, Ohio.

The meeting is sponsored by the St. Anthony Medical Center. Concurrent programs will run for physicians, nurses and vascular technologists. Category 1 credit is 21 hours.

Contact Shelly Hershberger, St. Anthony Medical Center, 1492 E. Broad St., Suite 1100, Columbus, Ohio 43205—(614) 251-3680.

## Wellness Conference

The National Wellness Institute will conduct its 11th Annual National Wellness Conference at the University of Wisconsin-Stevens Point, July 20 to 25.

Registration for adults is \$360 for the week or \$85 per day. Children from 3 to 12 will enjoy an activity-based wellness program designed especially for them at \$60 per week. Housing and meals are available on campus at reasonable cost.

For the program and more information, contact the Institute at South Hall, U W-SP, Stevens Point, Wisc. 54481—(715) 346-2172.

## Echocardiography

"Doppler and 2-D Echocardiography" is the subject of a symposium to be sponsored by Johns Hopkins University School of Medicine and the Institute for Medical Studies. It will be conducted Sept. 7 to 13 in Washington, D.C.

The fees: Course I, Basic Echocardiography, \$295; Course II, Basic Doppler Echo, \$295; Course III, Clinical Doppler Echo, \$395; Course I and II, \$495; Course II and III, \$595; entire symposium, \$795. Category 1 credit: 43 hours.

Contact Kim Stroich, Institute for Medical Studies, 30131 Town Center Drive, Suite 215, Laguna Niguel, Calif. 92677.

## Dollars and Nutrition

"Nutrition Support: Impact of Cost Containment" is to be the subject of the 1986 Postgraduate Course of the American Society for Parenteral and Enteral Nutrition, which will be conducted Sept. 11 and 12 at the Hyatt Regency Cincinnati, Ohio.

Contact Kelly G. Tilton, ASPEN, 8605 Cameron St., Suite 500, Silver Spring, Md. 20910—(301) 587-6315.

## Quality of Test Results

"Managing the Quality of Laboratory Test Results in a Changing Health Care Environment" is the subject of the 4th annual Institute on Critical Issues in Health Laboratory Practice. It will be conducted Sept. 14 to 19 at Spring Hill Conference Center in Wayzata, a suburb of Minneapolis, Minn.

Contact Betty V. Addison, Laboratory Program Office, 24 Executive Park, Centers for Disease Control, Atlanta, Ga. 30329.

## Methodist Hospital CME

June 15-20 or June 22-27: Mini-Fellowship in Management of Diabetes; Camp John Warvel (Indiana Camp for Children with Diabetes), Nashville, Ind; 40 credit hours for one full week.

June 13-14: Medical Bioelectric Impedance: State of the Art; Methodist Hospital, Indianapolis.

July 7-11: Emergency Medicine Update; Methodist Hospital, Auditorium/Wile Hall #317.

For more information, contact Dixie Estridge, CME coordinator, Graduate Medical Center, Methodist Hospital of Indiana—(317) 929-3733.

The *Journal of the American Medical Association* publishes a list of CME courses for the United States twice yearly. The January listing features courses offered from March through August; the July listing features courses offered from September through February.

## Hand Surgery

"Difficult Problems in Hand Surgery" is the title of a course to be sponsored by the American Society for Surgery of the Hand Oct. 20 to 22 in Indianapolis.

The course chairmen are Drs. James W. Strickland, James B. Steichen, William B. Kleinman, Hill Hastings and Richard B. Idler. A distinguished national faculty will lecture. The chairmen will moderate the groups of experts and will present a set of cases with slides to create discussion of the problems presented. Tuition for physicians will be \$425 if paid by Sept. 22, \$475 after.

For details, contact the Society at 3025 S. Parker Road, Suite 65, Aurora, Colo. 80014—(303) 755-4588.

## Vascular Disease

The "Fourth Annual Seminar on Peripheral Vascular Disease and Hypertension" will be held Aug. 15 to 17 at Sawmill Creek Resort in Huron, Ohio.

The program is sponsored jointly by the Cleveland Clinic Foundation and Millcreek Community Hospital of Erie, Pa. It is oriented to primary care physicians and specialists interested in this discipline.

For registration forms and more information, contact the Dept. of Medical Education, Millcreek Community Hospital, 5515 Peach St., Erie, Pa. 16509—(814) 864-4031, ext. 448.

## Medinfo 86

The Fifth World Congress on Medical Informatics meets Oct. 26 to 30 at the Sheraton Washington Hotel, Washington, D.C. The program will contain contributions by the Symposium on Computer Applications in Medical Care and the American Association for Medical Systems and Informatics.

Correspond with the Medinfo 86 Secretariat, Office of CME, George Washington University, 2300 K St., N.W., Washington, D.C. 20037.



## Resident Physicians

An educational program and reception to welcome new resident physicians to the practice of medicine in Indiana will begin at 5 p.m., June 25. The "Welcome" program will be held in the Fifth Floor Auditorium of Indiana National Bank at One Indiana Square in downtown Indianapolis.

The featured speaker will be J. Patrick Tokarz, M.D., of Alexandria, Va., who will address "Beyond Survival" and the coping skills needed to manage stress.

ISMA members are invited to attend and welcome incoming residents to the practice of medicine in Indiana. For reservations, please contact Carol Ann Cunningham at ISMA Headquarters and additional information about Dr. Tokarz's research will be mailed with the reservation confirmation.

## Newborn Symposium

The 20th Annual Newborn Symposium of the Dept. of Pediatrics, School of Medicine, University of Louisville, will meet Oct. 9 and 10 at the Kosair Children's Hospital auditorium, 200 E. Chestnut St., Louisville.

The correspondent is Pat Gregg, Dept. of Pediatrics, University of Louisville, Louisville, Ky. 40292—(502) 562-8826.

## Pediatrics Symposium

The 14th Annual Fall Pediatric Surgery/Pediatrics Symposium on "Care of the Seriously Ill Child," sponsored by the I.U. School of Medicine, will be held Oct. 9 and 10 at Union Station, Indianapolis.

Guest speakers include W. Hardy Hendren, M.D., Children's Hospital Medical Center, Boston; Dale G. Johnson, M.D., University of Utah Medical Center; and Kathryn D. Anderson, M.D., Children's National Medical Center, Washington, D.C.

The correspondent is Jay L. Grosfeld, M.D., 702 Barnhill Drive, Indianapolis 46223—(317) 264-8353.

## Correctional Health Care

The 10th National Conference on Correctional Health Care will be held at the Washington (D.C.) Hilton Oct. 30 to Nov. 1.

The conference is sponsored by the National Commission on Correctional Health Care for those professionals working in jails, prisons and juvenile confinement facilities. The commission is requesting abstracts of papers for the program.

Write to the commission at 333 E. Ontario St., Suite 2902-B, Chicago 60611, or call Jodie Manes at (312) 440-1574.

## Pulmonary Circulation

"Pulmonary Circulation in Health and Disease" is the title of a CME course sponsored by the Dept. of Anesthesiology, University of Wisconsin at Madison. It will be conducted July 8 to 11 at the Wisconsin Center in Madison.

Contact Sarah Z. Aslakson, 465B WARF Bldg., 610 Walnut St., Madison, Wisc. 53705—(608) 263-2856.

## Childhood ENT Diseases

Children's Hospital of Pittsburgh will conduct a course on "Ear, Nose and Throat Diseases in Children" Dec. 3 to 7 at The Breakers, Palm Beach, Fla. Tuition is \$275, and CME credit is 17 hours.

Contact the Dept. of Otolaryngology, Children's Hospital of Pittsburgh, 125 DeSoto St., Pittsburgh 15213—(412) 647-6315.

## Advances in Pediatrics

"Current Advances in Pediatrics" is the subject of a three-day CME program Oct. 17 to 19 at the Disneyland Hotel in Anaheim, Calif. The sponsors are the Orange County Pediatric Society, American Academy of Pediatrics and UCI Medical Center.

Write Orange County Pediatric Society, P.O. Box 1297, Orange, Calif. 92668.

## Clinical Home Care

"Clinical Home Care in the 1980s: Economics, Implementation and Ethical Issues" is the subject of a CME course to be conducted June 26 and 27 at the Wisconsin Center in Madison. Category 1 credit is 14 hours.

The correspondent is Sarah Z. Aslakson in Madison—(608) 263-2856.

## Perinatal Nutrition

"Perinatal Nutrition" is the topic of the Sixth Annual Bristol-Myers Symposium on Nutrition Research, to be held Aug. 28 and 29 at the Grand Hotel in Saltsjobaden, Sweden.

Registration information can be obtained from Ralph D. Weaver, Manager, Public Affairs Services, Bristol-Myers Company, 345 Park Ave., Room 43-38, New York, N.Y. 10154—(212) 546-4319.

## Breast Cancer

"Breast Cancer and Cancer Nursing" will be the subject of the 5th annual Cincinnati Cancer Conference, to be conducted Oct. 31 and Nov. 1.

Cancer specialists will discuss the various modalities in treatment, and sessions will be devoted to nursing issues.

Contact Thomas O'Connor, CME, Bethesda Hospital, 619 Oak St., Cincinnati, Ohio 45206—(513) 569-6339.



"It happens every time the newspaper runs a series of articles on an illness."

# CANCER CORNER

WILLIAM M. DUGAN, JR., M.D.

Methodist Hospital Cancer Care Center, Indianapolis

Prospective Payment Assessment Commission Follows Association of Community Cancer Centers Recommendations on Changing Leukemia DRGs: The March 1986 issue of the *ACCC Bulletin* indicates that the Prospective Payment Assessment Commission (PROPAC) will recommend that the Health Care Financing Administration (HCFA) significantly alter the current payment for adult leukemia patients. The action is based on information and recommendations made to the Commission by ACCC. The Association has been campaigning for over a year for adjustments to several specific DRGs and action on DRGs and clinical research.

"It took a year and a half, but it was worth it," said John W. Yarbrow, M.D., Ph.D., former president of the Association and chairman of the Cancer DRG Research Committee. "This was one of two priorities we identified in 1984. The other was the disincentives to clinical trials."

In the summer of 1985, ACCC submitted an extensive brief to PROPAC identifying acute leukemia and chemotherapy reimbursement as two areas requiring immediate attention. The brief cited data collected from ACCC's Cancer DRG Research Program that demonstrated substantial losses for leukemia, and stated: "Experienced practitioners in oncology have speculated that the imbalance in reimbursement for leukemia diagnoses stems from the data base employed by HCFA in determining DRG weights. The anticipated average length of stay for acute leukemia, for example, is only seven days, a figure which reflects the historical treatment practice with respect to leukemia patients aged 65 or over—i.e., essentially not to treat the disease and simply allow the patient to die. As the state of knowledge respecting treatment of cancer advances, there are increasing opportunities for curative as well as palliative approaches to treatment of aged leukemia victims; yet the DRG for

that diagnosis not only fails to reimburse for those new treatments, but in doing so in fact discourages their application to the Medicare population."

Preliminary indications are that the adult leukemias will be separated from all the other leukemias and lymphomas into an individual DRG. The two current DRGs that provide separate rates for those patients over and under 70

---

## There Are Increasing Opportunities for Curative as Well as Palliative Approaches to Treating Aged Leukemia Victims; Yet the DRG Fails to Reimburse for Those New Treatments . . .

---

will then be re-grouped. Full details should be available at ACCC's National Meeting in Washington.

"One of the reasons that we are among the few organizations to get this kind of recommendation passed is the substantial amount of data we have been able to collect," said ACCC Executive Director Lee E. Mortenson. "We are now getting a whole second round of information from current ACCC DRG research sponsors who are returning to us copies of our monograph on CANCER DRGs with information on their own hospitals. This information, in addition to the data that are being accumulated on our national data base, is vital to winning these

kinds of victories, now and in the future."

Dr. Yarbrow agreed, stating, "The only reason that we were successful was we had the data, and the numbers proved us right. We need to keep collecting this kind of information if we expect to have an impact on HCFA policies. This is just the beginning."

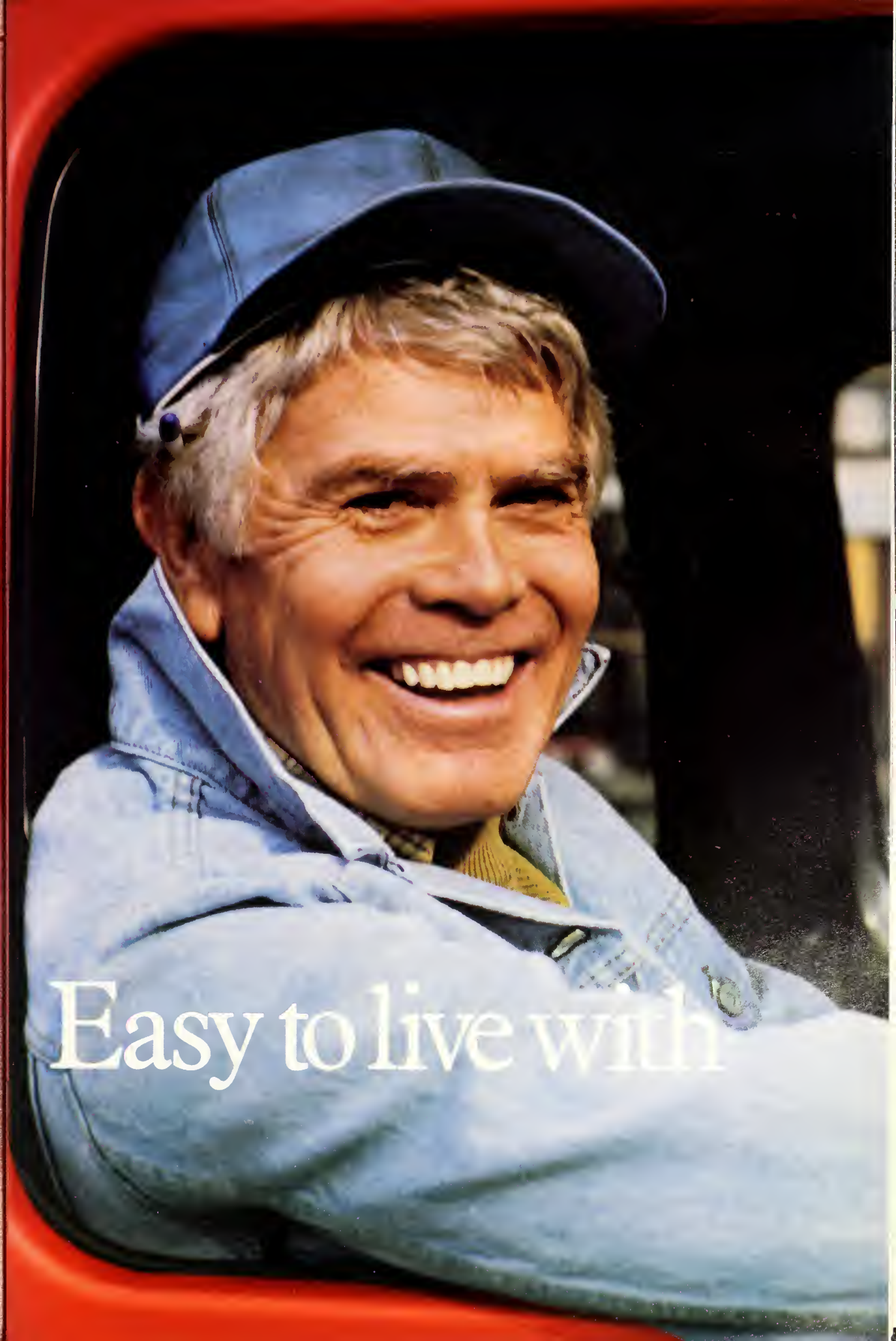
Copies of the Association's first report on the cancer DRGs are available free to DRG Research Program sponsors. Non-members may obtain a copy for \$250. The report provides detailed information on each cancer DRG, the major winners and losers, and average information that can be used to compare your own data with that contributed by other members.

PROPAC continues to study two other issues proposed by the Association—difficulties with cancer chemotherapy, and problems with reimbursement of patients on formal clinical trials. One area that has been a significant problem is continuous infusion therapy.

"PROPAC has received a number of complaints from physicians and hospitals about DRG 410, which substantiate our own work and continue to document the inadequacy of funding," said Mr. Mortenson. "We will continue our own research and hope to provide PROPAC with some additional information on cancer DRGs during the summer."

**The Expanding Role of Rehabilitation in Cancer Care**, a John E. Stanwood Cancer Rehabilitation Lectureship, will be held Sept. 5 and 6, 1986 in Portland, Oregon. The conference will provide a forum for interprofessional exchange of knowledge and experience related to delivering rehabilitation services to those with cancer. For more information, contact: Suzanne May, Cancer Rehabilitation Service, Good Samaritan Hospital & Medical Center, 1015 N.W. 22nd Ave., Portland, Oregon 97210 or call 503-229-7283.



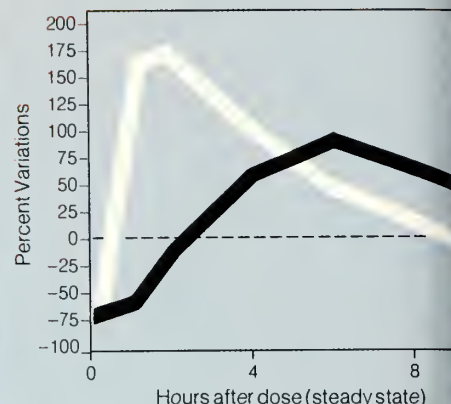


Easy to live with





## INDERAL LA and



- INDERAL LA avoids the sharp peak seen with atenolol

# Blood pressure controlled

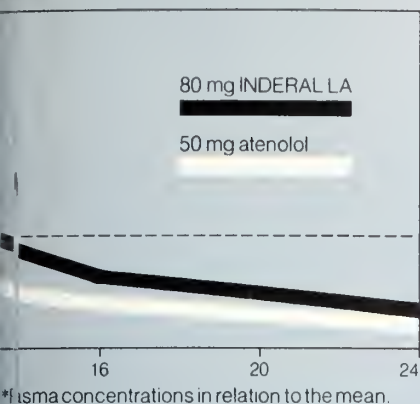
## Smooth blood pressure control and well tolerated

Once-daily INDERAL LA (propranolol HCl) keeps life simple for the patient. A single dose provides 24-hour blood pressure control. Convenient and well tolerated, INDERAL LA rarely interferes with everyday living. In fact, a recent study of 138 patients found a low incidence of side effects with INDERAL LA, which was not significantly different from that reported with metoprolol and atenolol.<sup>2</sup>

INDERAL LA should not be used in the presence of congestive heart failure, sinus bradycardia, cardiogenic shock, heart block greater than first degree, and bronchial asthma.

**Once-daily**  
**INDERAL<sup>®</sup> LA**  
 (PROPRANOLOL HCl) **Long Acting Capsules**

atenolol over 24 hours\*<sup>1</sup>



Smooth, consistent  
plasma drug levels  
over 24 hours

Full, 24-hour blood  
pressure control  
with INDERAL LA



# and feeling good.

## Added blood pressure control with the preferred diuretic

When more than one antihypertensive agent is needed, once-daily INDERIDE LA enhances patient compliance to improve long-term control. Patients receive all the benefits of controlled-release INDERAL LA and standard-release hydrochlorothiazide (HCTZ), for comfortable morning diuresis. Not only does this regimen permit patients to follow normal daily routines, but HCTZ also produces less potassium wastage on a mg-for-mg basis than chlorthalidone.<sup>3,4</sup>

## Once-daily INDERIDE LA

As with all fixed combinations for hypertension, INDERIDE LA is indicated for the treatment of hypertension. For complete prescribing information, see the accompanying literature.



# Once-daily INDERAL® LA (PROPRANOLOL HCl) LONG ACTING CAPSULES



The appearance of these capsules is a registered trademark of Ayerst Laboratories

## BRIEF SUMMARY (FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULARS)

**INDERAL® LA** Brand of PROPRANOLOL HYDROCHLORIDE (Long Acting Capsules)  
**INDERIDE® LA** Brand of PROPRANOLOL HYDROCHLORIDE (INDERAL® LA) and HYDROCHLOROTHIAZIDE (Long Acting Capsules)  
INDERAL LA AND IINDERIDE LA Capsules should not be considered simple mg-for-mg substitutes for Inderal and Inderide Tablets. Please see package circulars.

### CONTRAINDICATIONS

**Propranolol hydrochloride (INDERAL® LA):** Propranolol is contraindicated in: 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with propranolol.

**Hydrochlorothiazide:** Hydrochlorothiazide is contraindicated in patients with anuria or hypersensitivity to this or other sulfonamide-derived drugs.

### WARNINGS

**Propranolol hydrochloride (INDERAL® LA):** CARDIAC FAILURE. Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated, and are receiving digitalis and diuretics. Beta adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or propranolol should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction following abrupt discontinuance of propranolol therapy. Therefore, when discontinuance of propranolol is planned the dosage should be gradually reduced and the patient carefully monitored. In addition, when propranolol is prescribed for angina pectoris, the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If propranolol therapy is interrupted and exacerbation of angina occurs, it is usually advisable to reinstitute propranolol therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

**THYROTOXICOSIS.** Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol.

**MAJOR SURGERY.** The necessity or desirability of withdrawal of beta blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

**Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD, IN GENERAL, NOT RECEIVE BETA BLOCKERS.** Inderal should be administered with caution, since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

**DIABETES AND HYPOLYCEMIA.** Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin. Hypoglycemic attacks may be accompanied by a precipitous elevation of blood pressure.

**Hydrochlorothiazide:** Thiazides should be used with caution in severe renal disease. In patients with renal disease, thiazides may precipitate azotemia. In patients with impaired renal function, cumulative effects of the drug may develop.

Thiazides should also be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma.

Thiazides may add to or potentiate the action of other antihypertensive drugs. Potentiation occurs with ganglionic or peripheral adrenergic-blocking drugs.

Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma.

The possibility of exacerbation or activation of systemic lupus erythematosus has been reported.

### PRECAUTIONS

**Propranolol hydrochloride (INDERAL® LA):** GENERAL. Propranolol should be used with caution in patients with impaired hepatic or renal function. Propranolol is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that propranolol may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

**CLINICAL LABORATORY TESTS.** Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

**DRUG INTERACTIONS.** Patients receiving catecholamine-depleting drugs, such as reserpine, should be closely observed if propranolol is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity, which may result in hypotension, marked bradycardia, vertigo, syncope, attacks, or orthostatic hypotension.

**CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY.** Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies, in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

**PREGNANCY.** Pregnancy Category C. Propranolol has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximal recommended human dose. There are no adequate and well-controlled studies in pregnant women. Propranolol should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

# Once-daily INDERIDE® LA

Each capsule contains: propranolol HCl, Inderal® LA, 80 mg, 120 mg, or 160 mg, and hydrochlorothiazide 50 mg



The appearance of these capsules is a registered trademark of Ayerst Laboratories.

**NURSING MOTHERS.** Propranolol is excreted in human milk. Caution should be exercised when propranolol is administered to a nursing mother.

**PEDIATRIC USE.** Safety and effectiveness in children have not been established.

**Hydrochlorothiazide:** GENERAL. Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals.

All patients receiving thiazide therapy should be observed for clinical signs of fluid or electrolyte imbalance, namely: Hyponatremia, hypochloremic alkalosis, and hypokalemia. Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively, receiving parenteral fluids. Medication such as digitalis may also influence serum electrolytes. Warning signs irrespective of cause are: Dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting.

Hypokalemia may develop, especially with brisk diuresis, when severe cirrhosis is present, during concomitant use of corticosteroids or ACTH.

Interference with adequate oral electrolyte intake will also contribute to hypokalemia. Hypokalemia can sensitize or exaggerate the response of the heart to the toxic effect of digitalis (eg, increased ventricular irritability). Hypokalemia may be avoided or treated by use of potassium supplements, such as foods with a high potassium content.

Any chloride deficit is generally mild and usually does not require specific treatment, except under extraordinary circumstances (as in liver or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction, rather than administration of salt, except in rare instances when the hyponatremia is life-threatening. In actual dehydration, appropriate replacement is the therapy of choice.

Hyperuricemia may occur or frank gout may be precipitated in certain patients receiving thiazide therapy.

Insulin requirements in diabetic patients may be increased, decreased, or unchanged. Diabetes mellitus which has been latent may become manifest during thiazide administration.

If progressive renal impairment becomes evident, consider withholding or discontinuing diuretic therapy.

Thiazides may decrease serum PBI levels without signs of thyroid disturbance.

Calcium excretion is decreased by thiazides. Pathologic changes in the parathyroid gland with hypercalcemia and hypophosphatemia have been observed in a few patients on prolonged thiazide therapy. The common complications of hyperparathyroidism, such as renal lithiasis, bone resorption, and peptic ulceration, have not been seen. Thiazides should be discontinued before carrying out tests for parathyroid function.

**DRUG INTERACTIONS.** Thiazide drugs may increase the responsiveness to tubocurarine.

The antihypertensive effects of thiazides may be enhanced in the postsympathectomy patient. Thiazides may decrease arterial responsiveness to norepinephrine. This diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use.

**PREGNANCY.** Pregnancy Category C. Thiazides cross the placental barrier and appear in fetal blood. The use of thiazides in pregnancy requires that the anticipated benefit be weighed against possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult.

**NURSING MOTHERS.** Thiazides appear in human milk. If use of the drug is deemed essential, the patient should stop nursing.

**PEDIATRIC USE.** Safety and effectiveness in children have not been established.

### ADVERSE REACTIONS

**Propranolol hydrochloride (INDERAL® LA):** Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

**Cardiovascular:** Bradycardia, congestive heart failure, intensification of AV block, hypotension, paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type.

**Central Nervous System:** Lightheadedness, mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to cataplexy, visual disturbances, hallucinations, an acute reversible syndrome characterized by disorientation of time and place, short-term memory loss, emotional lability, slightly clouded sensorium, decreased performance on neuropsychometrics.

**Gastrointestinal:** Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

**Allergic:** Pharyngitis and agranulocytosis, erythematous rash, fever combined with aching sore throat, laryngospasm and respiratory distress.

**Respiratory:** Bronchospasm.

**Hematologic:** Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

**Auto-Immune:** In extremely rare instances, systemic lupus erythematosus has been reported.

**Miscellaneous:** Alopecia, LE-like reactions, psoriasisiform rashes, dry eyes; male impotence. Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the serous membranes, and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

### Hydrochlorothiazide:

**Gastrointestinal:** Anorexia, gastric irritation, nausea, vomiting, cramping, diarrhea, constipation, jaundice (intrahepatic cholestatic jaundice), pancreatitis, sialadenitis.

**Central Nervous System:** Dizziness, vertigo, paresthesias, headache; xanthopsia.

**Hematologic:** Leukopenia, agranulocytosis, thrombocytopenia, aplastic anemia.

**Cardiovascular:** Orthostatic hypotension (may be aggravated by alcohol, barbiturates, narcotics).

**Hypersensitivity:** Purpura, photosensitivity, rash, urticaria, necrotizing angitis (vasculitis), fever, respiratory distress, including pneumonitis, anaphylactic reaction.

**Other:** Hyperglycemia, glycosuria, hyperuricemia, muscle spasm, weakness, restlessness, transient blurred vision.

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduced or therapy withdrawn.

\*The appearance of these capsules is a registered trademark of Ayerst Laboratories.

### REFERENCES

1. Data on file, Ayerst Laboratories.
2. Ravid M, Lang R, Jutrin I. The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern Med* 1985;145:1321-1323.
3. Sumiyel L, Vivian AS, Frost KB, et al. Potassium loss associated with hydrochlorothiazide versus chlorthalidone. *Clin Ther* 1981;4:308-320.
4. Ram CVS, Garrett Kaplan NM. Moderate sodium restriction and various diuretics in the treatment of hypertension. *Arch Intern Med* 1981;141:1015-1019.

**Ayerst.**

AYERST LABORATORIES  
New York, NY 10017

© 1986 Ayerst Laboratories



# PUBLIC HEALTH NOTES

Public health is based on the conviction that the physical environment and social milieu in which we live can serve either to enhance or reduce individual and community potential.

This conviction was supported when the President of the United States signed Public Law 95-83, the Health Services Extension Act of 1977. Section 314 of this act mandated the development of standards for community preventive health services.

In a collaborative project, the United States Conference of City Health Officers, National Association of County Health Officials, Association of State and Territorial Health Officials, American Public Health Association, and the Department of Health and Human Services developed "Model Standards for Community Preventive Health Services" and submitted it to Congress in 1979. This document was intended to present an innovative framework for assessing preventable public health problems and preventive services in communities.

The Indiana State Board of Health has responded to this call for model standards in public health by working collaboratively with the Indiana Association of Public Health Physicians, Indiana Public Health Association, Indiana Environmental Health Association, and Local Health Departments of Indiana to develop Local Health Standards. In September 1985, the Indiana State Board of Health Executive Board adopted the first edition of Local Health Standards as the operational guidelines for all local health departments.

Local Health Standards is a single document describing standards of service and is intended to shape the direction of public health in Indiana by developing minimum standards for local health departments. A framework is presented which permits quantification of objectives in every community irrespective of size, locale, nature of

preventable problems and present availability of preventive services.

The document covers a finite group of 11 program areas and presents a basic structure for incremental improvement in community health status through preventive health service

---

## **Board of Health Adopts Document Designed to Shape the Direction of Local Public Health Departments by Developing Minimum Standards . . .**

---

programming. The 11 program areas covered in this document are: Animal and Vector Control, Communicable Disease Control, Environmental Health, Food Sanitation, Health Education, Laboratory Services, Maternal and Child Health, Nutrition Services, Public Health Nursing, Vital Records and Administrative Support.

This document has the potential to be a powerful medium to improve communication within agencies and among agencies and individuals with an interest in or responsibility for community preventive health. The standards are compatible with overall state prevention aims and can provide technical assistance to local health departments. They are intended to promote greater uniformity and consistency in local health department programs, promote cooperative efforts between local health departments, the State Board of Health and other health and health-related community agencies

to establish a realistic timetable for reducing and preventing the principal health problems facing communities, and establish community specific objectives relative to reducing present levels of preventable morbidity and mortality.

The Local Health Standards document was distributed to all Indiana health officers accompanied by a survey which will promote data collection, thus permitting program accountability to the Legislature and to the general public, and to facilitate the identification of necessary program improvements. While each of the 11 program areas presented in the Local Health Standards document can be improved by better administration, clearer definitions of functions, more effective communication and sharing of resources, most also require more adequate funding to achieve their full potential in improving the health of the state's citizens.

The development and implementation of Local Health Standards is a demonstration of Indiana's public health community's commitment to providing quality preventive health services, as well as the reaffirmation that the best possible health status of Indiana citizens can be attained only through a shared commitment at the local and the state levels.

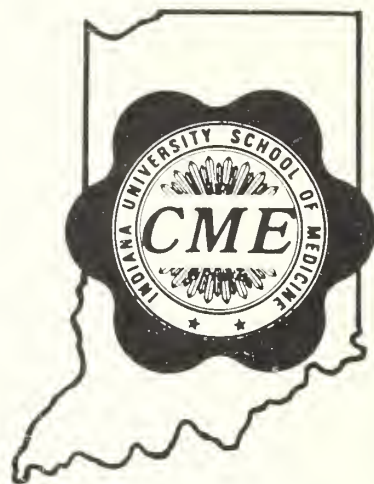
The Local Health Standards document establishes realistic expectations while presenting challenging work ahead. The development and refinement of the standards will be an ongoing process, including continuing dialogue among interested organizations and individuals.

It is a landmark documentation which will establish a basis for directing the second public health revolution in Indiana. Those who are interested in a copy of Local Health Standards may contact the Local Health Standards and Evaluation Section at 317/633-8463.

INDIANA MEDICINE offers its readers a Continuing Medical Education series of articles prepared by the faculty of the Indiana University School of Medicine. The program is coordinated and supported by a grant from the school's Division of Continuing Medical Education.

As an organization accredited for continuing medical education, the Indiana University School of Medicine certifies that this CME activity meets the criteria for one credit hour in Category 1 for the Physician's Recognition Award of the American Medical Association, provided it is used and completed as designated.

To obtain Category 1 credit for this month's article, complete the quiz on page 555.



## Stages I and II Breast Cancer\*

### Is There a Rational Basis for Surgical Excision Followed by Precision Radiation Therapy?

---

JAMES G. MORPHIS II, M.D.  
Indianapolis

---

\*Stage I: Tumor 2 cm or less and negative axillary nodes.

Stage II: Tumor 2 cm or less and positive mobile axillary nodes; or tumor over 2 cm but not over 5 cm and axilla either negative or positive.

The author is an Assistant Professor, Dept. of Radiation Oncology, Indiana University School of Medicine, 535 Barnhill Drive, Indianapolis, Ind. 46223.

**D**EBATE HAS LONG RAGED regarding the necessity for radical surgery in the primary treatment of breast carcinoma. In the 1930s, G. Keynes<sup>1</sup> pioneered the radical irradiation of primary breast cancer utilizing both external irradiation and radium needle implants to both the breast and peripheral lymph node regions. He reported an approximately 10% long-term clinical recurrence-free survival. These results were, by any standards, discouraging, and the technique soon drifted into obscurity. Yet, the concept of an alternative to radical surgery in the primary treatment of breast cancer has remained through the years. Indeed, in the early 1970s, popular lay publications<sup>2,3</sup> began proclaiming freedom from

mutilating breast surgery. However, medical opinion has remained strongly in favor of radical surgery, insisting that patients were at higher risk for treatment failure with the use of biopsy and irradiation instead of radical surgery.<sup>4,5</sup> This paper will review the basis for a progressive shift in medical opinion.

#### Retrospective Reviews

One of the first reports of the successful use of less than radical surgery combined with irradiation in treatment of breast cancer was by Peters.<sup>6</sup> She demonstrated equivalent five- and 10-year survivals, whether treated with excisional biopsy and irradiation, or with mastectomy with or without irradiation, in stages I and II breast



cancer. Her report reviewed 852 patients treated from 1935 through 1960. At that time, perhaps the greatest resistance to less than radical surgery was supported by the "Halstedian" concept of the spread of breast cancer as an orderly progression from the primary located in the breast to the regional lymph nodes and, thence, to the general circulation. This concept placed a premium upon thorough local/regional eradication of breast cancer as the most effective curative treatment.

Gradually, however, we have revised our view of the natural history of breast cancer. Survival depends primarily upon the presence or absence of systemic metastases, which are independent of and can only be forecasted by the presence of regional node metastases. The local therapy is, therefore, precluded as the arbiter of survival data. This has resulted in a shift of emphasis away from survival and toward local control as the judge of local treatment adequacy.

There are innumerable difficulties in comparing results of diverse retrospective analyses. However, for the sake of perspective, *Table 1* lists examples of reported local control rates as a result of radical breast surgery or breast conservation surgery (i.e., excision biopsy, wedge resection, partial mastectomy, tylectomy, lumpectomy) and breast irradiation in stage I carcinoma of the breast.<sup>7-16</sup>

Not all retrospective reviews, however, have revealed comparable local control with radical surgery. Farrow<sup>4</sup> reported a 61% local recurrence in 77 patients treated by biopsy and breast irradiation in contrast to 9.1% local recurrence in patients treated with radical mastectomy. However, far from providing a condemnation of breast conservation surgery and irradiation, this review makes an eloquent statement of what should not be done as an alternative to radical surgery. The average tumor size was 4.7 cm for this patient population, most of whom had only an aspiration biopsy or incisional

TABLE I	
STAGE I BREAST CANCER	
Results of Radical Surgery	
	Local Control
Haagensen	93%
Handley	90%
Urban	98%
Williams	78%
Dahl-Iverson	80%
Results of Primary Radiotherapy	
	Local Control
Chu	91%
Levene	100%
Nobler	100%
Pierquin	95%
Proznitz	98%

biopsy with no attempt at removal of tumor. Only 22% underwent simple excision and irradiation. In addition to the vast majority leaving gross residual tumor in the breast, 81.8% of the patients received less than 7,000 rad irradiation and, therefore, inadequate treatment to control gross residual cancer.

#### Randomized Trials

One of the earliest randomized trials provided support for the more radical breast procedure. In 1972, the Guy's Hospital Trial was published<sup>17</sup> in which stages I and II patients were randomized between radical mastectomy and peripheral lymph node irradiation versus wide excision and breast and peripheral lymph node irradiation. 370 patients were entered into the trial over a period of 10 years. The irradiation given utilized 300 KV orthovoltage to a dose of 2,500-2,700 rad over 18 days to the peripheral lymph node, and a dose of 3,500-3,800 rad in three weeks to the breast utilizing 6 MV linear accelerator. The local recurrence rate at five years was significantly greater for those patients undergoing wedge resection and breast irradiation in both

stage I and stage II cases. Because of the irradiation dose inadequacy by even then contemporary standards,<sup>18</sup> this study provides a more valid comparison of surgical procedures than comparison between radical surgery versus wide excision and irradiation.

In 1981, Veronesi<sup>19</sup> published the results of a large, controlled, prospective study at the National Cancer Institute in Milan, Italy in stage I breast cancer. 701 patients were randomized between Halsted radical mastectomy or quadrantectomy, axillary dissection and radiotherapy delivering 5,000 rad to the breast. With up to seven years follow-up, the disease-free survival between arms of the study has been essentially identical (*Figure 1*). In particular, there was no statistical difference in the incidence of local recurrence.

The question arises, however, is breast irradiation actually necessary? Crile<sup>20</sup> has reported 6% 10-year local recurrence in selected patients with partial mastectomy in which no breast irradiation was given. That is a question which has been addressed in the National Surgical Adjuvant Breast Project (Protocol B-06). This study utilized a three-arm prospective randomization between total mastectomy and axillary dissection (AD); segmental mastectomy and AD; and segmental mastectomy and AD plus breast irradiation (5,000-5,300 rad) in 2,163 patients with stages I and II carcinoma of the breast (primary less than or equal to 4 cm). The five-year analysis<sup>21</sup> demonstrates lack of a survival or disease-free survival advantage to total mastectomy over segmental mastectomy and irradiation, as demonstrated in *Figure 2*.

The difference in disease-free survival between segmental mastectomy versus segmental mastectomy and irradiation was highly significant in patients with negative nodes ( $p=0.005$ ) with disease-free survivals of 67.8% for the segmental mastectomy group and 80.9% for segmental mastectomy and irradiation. This is largely accounted for by the difference in local recurrence



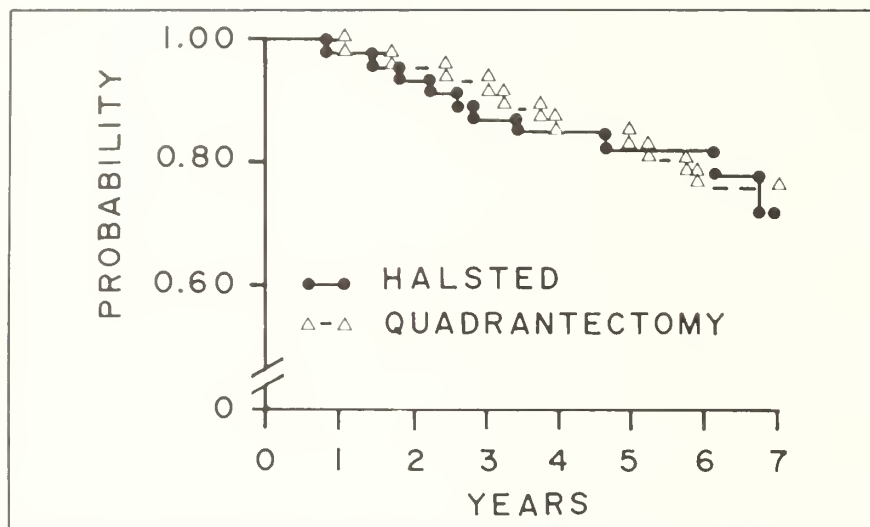


FIGURE 1: Actuarial disease-free survival in patients treated with Halsted mastectomy or with quadrantectomy. Axillary dissection and radiotherapy (Log-Rank Test: Overall chi-square, 0.38 with 1 degree of freedom;  $P = 0.54$ ). Veronesi U, et al: Reprinted by permission of the *New England Journal of Medicine*, 305:10, July 2, 1985.

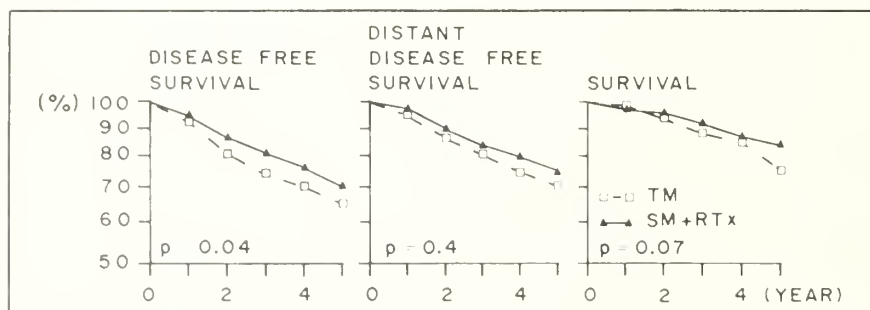


FIGURE 2: Life-table analysis showing disease-free survival, distant-disease-free survival, and overall survival of patients treated by total mastectomy (TM) or by segmental mastectomy plus radiation (SM-RTx). Fisher B, et al: Reprinted by permission of the *New England Journal of Medicine*, 312:667, March 14, 1985.

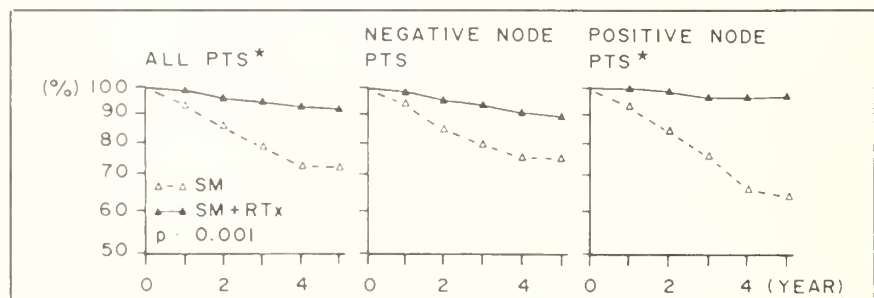


FIGURE 3: Life-table analysis showing the percentage of patients remaining free of breast tumor after segmental mastectomy (SM) or segmental mastectomy with breast irradiation (SM-RTx). Fisher B, et al: Reprinted by permission of the *New England Journal of Medicine*, 312:671, March 14, 1985.

rate of 27.9% of the patients receiving segmental mastectomy and 7.7% of the patients treated with segmental mastectomy and breast irradiation. This is illustrated in Figure 3.

A third randomized comparison of mastectomy versus excision and irradiation reported only one local failure in 112 patients placed on protocol at the National Cancer Institute. This solitary local failure was in the mastectomy group. The follow-up of this study, however, has been limited (median 35 months, minimum 1 year).<sup>22</sup>

### Conclusions

There has been extensive debate regarding the primary treatment of apparently localized breast cancer. Radical surgery has been the treatment of choice for many years; however, with a better understanding of the natural history of the spread of breast cancer, the need for radical surgery has been more and more called into question. Indeed, over the years, several retrospective reviews and now prospective randomized studies have demonstrated essentially equal local failure rates in patients treated with breast conserving surgery and irradiation as compared to more radical surgery.

### REFERENCES

1. Keynes G: The place of radium in the treatment of cancer of the breast. *Ann Surg*, 106:619-630, 1937.
2. Cope O: New hope for treatment of breast cancer to avoid the surgery all women fear. *Vogue Magazine*, p. 82ff, October 15, 1970.
3. Nolen W: The operation women fear most. *McCall's Magazine*, p. 98ff, April 7, 1971.
4. Farrow JH, et al: Simple excision or biopsy plus radiation therapy as the primary treatment for potentially curable cancer of the breast. *Cancer*, 28:1195-1201, 1971.
5. Goodson WH III: The next big question in the treatment of carcinoma of the breast. *Surg Gynecol Obstet*, 156:795-796, 1983.
6. Peters MV: Wedge resection and irradiation: An effective treatment in early breast cancer. *JAMA*, 200:2, 144-5, 1967.

7. Chu AM, *et al*: Treatment of early stage breast cancer by limited surgery and radical irradiation. *Int J Radiat Oncol Biol Phys*, 6:25-30, 1980.
8. Dahl-Iverson E, Tobiassen T: Radical mastectomy with parasternal and supraclavicular dissection for mammary carcinoma. *Ann Surg*, 170:889-891, 1969.
9. Haagensen CD, Cooley E: Radical mastectomy for mammary carcinoma. *Ann Surg*, 170:884-888, 1969.
10. Handley RS, Thackray AC: Conservative radical mastectomy. *Ann Surg*, 170:880-882, 1969.
11. Levene MB: Interstitial therapy of breast cancer. *Int J Radiat Oncol Biol Phys*, 2:1157-1161, 1977.
12. Nobler MP, Venet L: Twelve years' experience with irradiation as the primary treatment for breast cancer. *Int J Radiat Oncol Biol Phys*, 7:33-42, 1981.
13. Pierquin B, *et al*: Radical radiation therapy of breast cancer. *Int J Radiat Oncol Biol Phys*, 6:17-24, 1980.
14. Prosnitz LR, *et al*: Radiation therapy as initial treatment for early stage cancer of the breast without mastectomy. *Cancer*, 39:917-923, 1977.
15. Urban JA: What is the rationale for an extended radical procedure in early cases? *JAMA*, 199:11-12, 1967.
16. Williams IG, Stone J: Total mastectomy with axillary dissection and irradiation for mammary carcinoma. *Ann Surg*, 170:892-894, 1969.
17. Atkins H, *et al*: Treatment of early breast cancer: A report after ten years of a clinical trial. *Br Med J*, 2:423-429, 1972.
18. Fletcher GH: Local results of irradiation in the primary management of localized breast cancer. *Cancer*, 29:545-551, 1972.
19. Veronesi U, *et al*: Comparing radical mastectomy with quadrantectomy, axillary dissection, and radiotherapy in patients with small cancers of the breast. *N Engl J Med*, 305:6-11, 1981.
20. Crile G Jr: Management of breast cancer: Limited mastectomy. *Int J Radiat Oncol Biol Phys*, 2:969-973, 1977.
21. Fisher B, *et al*: Five-year results of a randomized clinical trial comparing total mastectomy and segmental mastectomy with or without radiation in the treatment of breast cancer. *N Engl J Med*, 312:665-673, 1985.
22. Lichter A, *et al*: A randomized comparison of mastectomy plus axillary dissection versus excision, axillary dissection plus radiation in the treatment of primary breast cancer. *Proceedings of the American Society of Clinical Oncology*, 3:119, 1984.

## Dx: recurrent herpes labialis

"HERPECIN-L is my treatment of choice for perioral herpes." GP, NY

"HERPECIN-L appears to actually prevent the blisters . . . used soon enough." DDS, MN

"HERPECIN-L® . . . a conservative approach with low risk/high benefits." MD, FL

"Used at prodromal symptoms . . . blisters never formed . . . remarkable." DH, MA

"(In clinical trials) . . . response was dramatic. HERPECIN-L . . . proven far superior." DDS, PA

"All patients claimed shorter duration . . . at prodromal symptoms . . . HERPECIN-L averted the attacks." MD, AK

OTC. See P.D.R. for information. For samples to make your own clinical evaluation, write: CAMPBELL LABORATORIES, Inc., P.O. BOX 812-MD, FDR STATION, NEW YORK, N.Y. 10150

**HERPECIN-L®**

In Indiana HERPECIN-L is available at all Hook, Osco, Peoples, Revco, Ribordy, SuperRx Drug Stores and other select pharmacies.

# The Metastatic Malignant Neck Mass

STUART M. MILLER, M.B.B.S.<sup>1</sup>  
RONALD C. HAMAKER, M.D.<sup>2</sup>  
MARK I. SINGER, M.D.<sup>2</sup>  
Indianapolis

PRIMARY CARE PHYSICIANS examine patients with cervical masses frequently. The majority of these lumps are due to reactive lymphadenopathy associated with bacterial or viral infections in the mouth, pharynx or upper respiratory tract. The malignant neck mass is uncommon but must be considered in assessment because delayed diagnosis or improper management will jeopardize treatment.

The differential diagnosis that applies to the neck mass is large (*Table*). Remembering that "the asymmetric enlargement of one or more cervical lymph nodes in the adult is almost always neoplastic and usually due to a metastasis from a primary lesion in the upper aerodigestive tract,"<sup>1</sup> the correct diagnosis will seldom elude the clinician.

### Clinical Features

The classic presentation of a malignant neck mass is in a middle-aged man who has noted a painless lump in the neck that has persisted or enlarged over several months. The patient has usually smoked or chewed tobacco for many years and commonly has a signifi-

cant alcohol intake. Symptoms referable to a primary lesion such as odynophagia, nasal obstruction, dysphagia or hoarseness may be absent as the growth of the primary and metastatic tumor may be disproportionate. Once the question of malignancy is raised, the head and neck must be examined completely. A large number of primary tumors will be found by examining the oral cavity and oropharynx with a tongue blade. When considering the probable primary site, it is important to know the lymphatic

drainage of the head and neck structures (*Figure*).

As a general principle, a malignant node high in the neck will arise from a primary within the head and neck. A greater proportion of supraclavicular nodal metastases arise from primary tumors in the thorax or abdomen.

### Management

Once a neoplastic neck mass is suspected, assessment by a physician with expertise in management of head

TABLE  
Differential Diagnosis of a Neck Mass

Normal Structure.....	Carotid bulb Hyoid bone Transverse process of vertebrae
Congenital	Branchial cleft cyst and fistula Thyroglossal cyst Dermoid cyst Teratoma
Infection . . . . .	Abscess Cervical lymphadenitis bacterial, nonspecific granulomatous viral
Neoplastic	
Benign . . . . .	Thyroid Vascular Chemodectoma Neurogenous Lipoma Fibroma
Malignant (Primary) . . . . .	Lymphoma Thyroid cancer Salivary gland cancer Sarcoma
Malignant (Metastatic)	Head and neck (aerodigestive tract, skin, salivary gland, thyroid) Infraclavicular Leukemias, lymphomas

<sup>1</sup>Head and Neck Fellow, 1985, Methodist Hospital of Indiana, Indianapolis.  
<sup>2</sup>Head and Neck Surgery Associates and Clinical Oncology Center, Methodist Hospital of Indiana, Indianapolis.

Correspondence: Ronald C. Hamaker, M.D., Head and Neck Surgery Associates, 1633 N. Capitol Ave., Suite 782, Indianapolis, Ind. 46202.

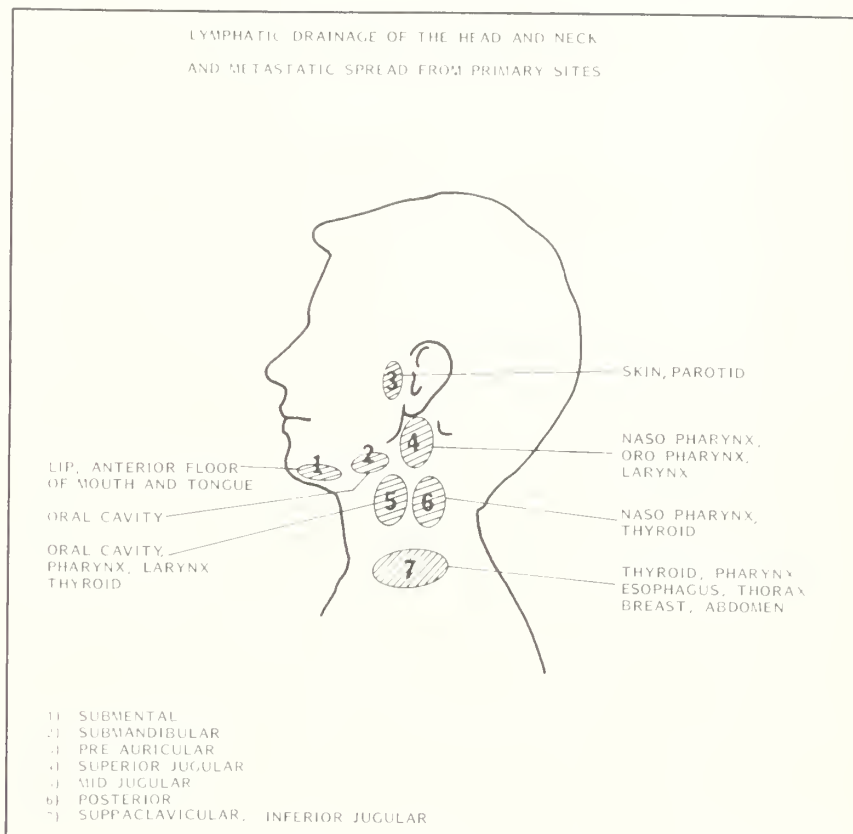


and neck cancer is indicated. Many clinicians unfamiliar with head and neck cancer find it tempting to obtain a biopsy of the neck mass as an initial step to obtain a histological diagnosis. This must be condemned, particularly in regard to squamous cell carcinoma. It delays location of the primary, may interfere in the designs of neck incisions for subsequent neck dissection and reduces the long-term chance of cure for the patient due to increased regional recurrence and distal disease.<sup>1,2</sup>

A primary site will be located after a thorough mirror examination, palpation of all accessible mucosal surfaces, thyroid, salivary glands, and scrutiny of the skin in 70% of such masses.<sup>1</sup> In recent years, short flexible fiberoptic endoscopes have become available that supplement mirror examination in patients with an active gag reflex.

Aspiration cytology is indicated in a suspected neoplastic neck mass when the primary remains occult or there is clinical inconsistency between the apparent primary and the neck mass. Although not a new technique, only in the last few years has its use become more widespread. Precise technique of aspiration by the clinician and specialized training in cyto-pathology is required as the accuracy of this technique is as good as the clinicians obtaining the sample and the interpretation of the cyto-pathologist.

In the head and neck, aspiration cytology has proven value in two major areas where predictive accuracy is as high as 95%.<sup>3,4,5</sup> It is invaluable in differentiating between malignant and benign thyroid nodules and reducing the need for thyroidectomy to obtain histological diagnosis and in diagnosing cervical metastatic squamous cell carcinoma. Aspirates from undifferentiated carcinoma, lymphoma, melanoma and parotid tumors are interpreted with less accuracy. Where squamous cell carcinoma or thyroid carcinoma is not identified on aspirate, an excision biopsy is currently recommended to obtain a tissue diagnosis.



If after examination, the primary tumor has not been found, further investigation may locate it. High Epstein-Barr virus titres indicate the nasopharynx is probably a primary site. Chest x-ray and barium swallow may locate an infraclavicular primary. Sinus x-rays are usually obtained. The CT scan has limited application in this situation despite current widespread use. This imaging technique will occasionally identify submucosal lesions in the nasopharynx and tongue base. A thyroid scan may locate a cold nodule when neck aspiration indicates adenocarcinoma and no thyroid mass is palpable.

Examination under general anesthesia is the next step to obtain tissue from an obvious primary or sample mucosa from the pharynx if the primary is occult. When mucosa of the upper airway digestive tract is considered "condemned" due to long-term

tobacco carcinogen exposure, triple endoscopy may identify a second primary in 10% of cases.

#### Treatment

Following assessment, three situations for management will have crystallized. A malignant neck mass and its primary will have been identified and confirmed histologically. This is usually an aerodigestive tract squamous cell carcinoma and treatment is determined by stage of disease. A combination of irradiation and surgery is usual.

A malignant neck mass with the primary occult has been identified and aspiration cytology has been performed confirming with confidence squamous cell carcinoma. Treatment is controversial depending upon disease stage. Irradiation before or after neck dissection should include the pharynx within the treatment fields.

Where a clinically malignant neck mass is present, and the primary has not been located and aspiration cytology is inconclusive or suggests poorly differentiated carcinoma, adenocarcinoma, lymphoma or melanoma, it is best to obtain an excisional biopsy for frozen and permanent section. In this situation, the neck is explored using an incision that may be extended into a formal neck dissection and the excised gland or mass is submitted for frozen section histology. If unequivocally melanoma, a radical neck dissection is performed. If squamous cell carcinoma is identified and the primary is occult, the authors currently recommend irradiation to the neck and potential primary, reserving surgery for salvage. If frozen section indicates adenocarcinoma, lymphoma or poorly differentiated carcinoma, or is equivocal, the neck is closed. Permanent sections determine further management.

The presence of metastatic neck disease in squamous cell head and neck cancers reduce the five-year cure rate by approximately 50%.<sup>6</sup> Optimal treatment of neck disease usually requires a combination of neck dissection and pre or post operative irradiation. The neck dissection indicated is controver-

sial and will depend on primary site, pathology and clinical stage. The options available are radical neck dissection or a modification. The radical neck dissection was designed to excise "en bloc" the draining lymphatics with a primary head and neck cancer. This procedure sacrifices the accessory nerve, jugular vein, sternocleidomastoid muscle and cervical plexus. It may be extended to include platysma muscle, superior mediastinal or retropharyngeal lymphatics, depending on the primary tumor and pattern of neoplastic spread. The indication for radical neck dissection exists when operable metastatic disease is limited to the neck and the primary site is resectable or controlled. Controversy exists where neck disease is not clinically evident but the likelihood of occult metastases is high or the node is less than 3 cm. in size. In these two situations, modified neck dissection and or radiotherapy are alternatives.

Modified neck dissection is designed to excise the draining lymphatics but preserve a combination of accessory nerve, jugular vein, sternocleidomastoid muscle and occasionally cervical plexus, thus avoiding the cosmetic and functional loss of a radical neck dissection. The dissection may be

limited to the anterior triangles or include the posterior triangle.

Modified neck dissection may be indicated electively where the probability of micro-metastases is high as an alternative to radical neck dissection or irradiation. If a node less than 3 cm. exists, modified neck dissection usually in combination with irradiation is an alternative to radical neck dissection for therapy.

#### REFERENCES

1. Martin H, Romieu C: Diagnostic significance of a lump in the neck. *Postgrad Med*, 2:491-500, 1952.
2. McQuirt WF, McCabe BF: Significance of node biopsy before definitive treatment of cervical metastatic carcinoma. *Laryngoscope*, 88:594-597, 1978.
3. Hamaker RC, Singer MI, Shockley WW: Role of needle biopsy in thyroid nodules. *Arch Otolaryngol*, 109:225-228, 1983.
4. Frable WJ, Frable MA: Thin needle aspiration biopsy: The diagnosis of head and neck tumors revisited. *Cancer*, 43:1541-1548, 1979.
5. Young JEM, Archibald SD, Shier KJ: Needle aspiration cytologic biopsy in head and neck masses. *Am J Surg*, 142:484-489, 1981.
6. Farr H, Goldfarb PM, Farr CM: Epidermoid carcinoma of the mouth and pharynx at Memorial Sloan Kettering, 1965-1979. *Am J Surg*, 140:563-567, 1980.

## PHYSICIAN

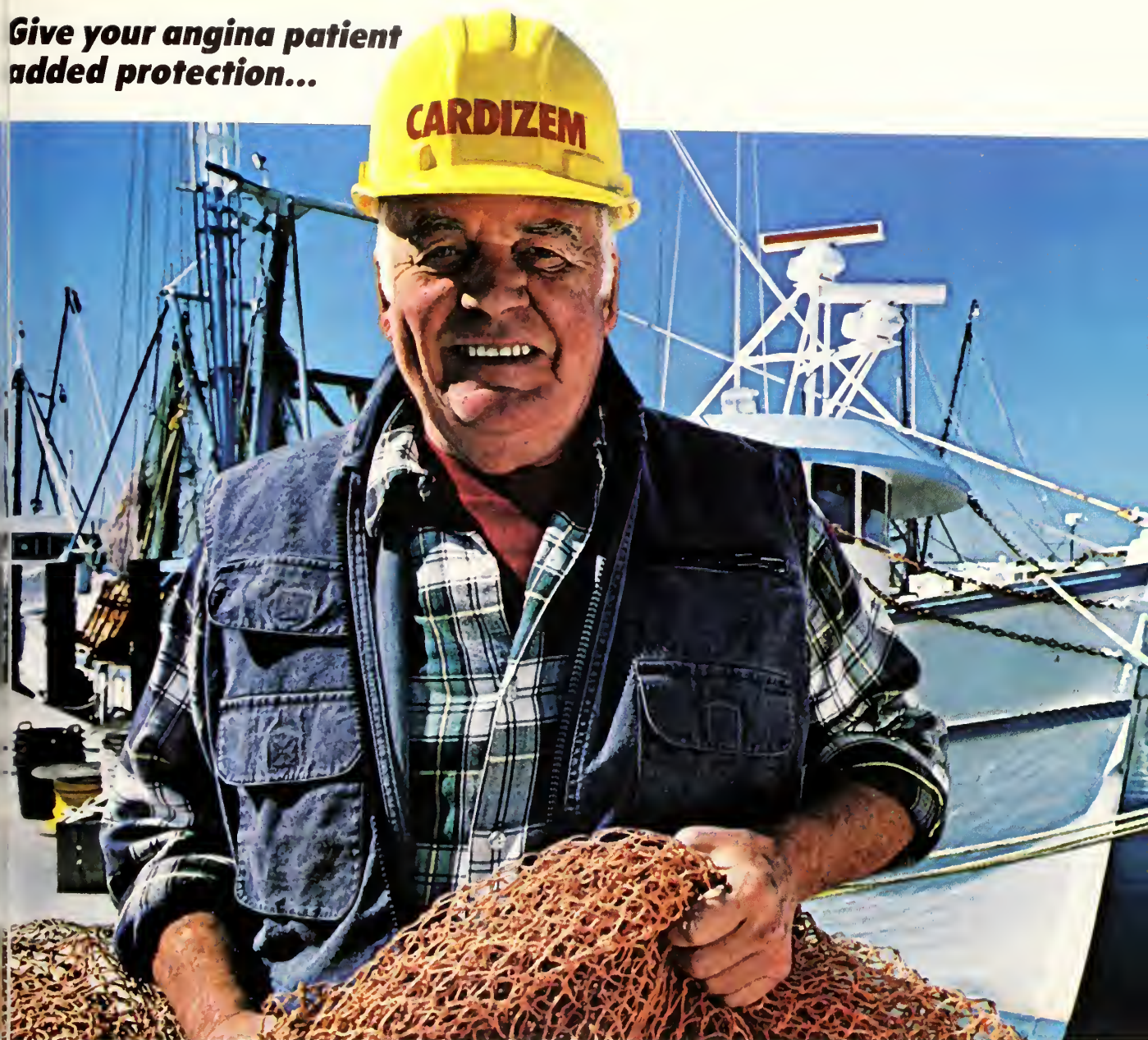
Vacancy exists at the Fort Wayne VA Medical Center for a full-time Medical Officer of the Day to provide coverage during non-administrative hours. The Medical Center is located in a metropolitan area of 300,000 and serves a veteran population of 175,750. Excellent employment benefits including 30 days paid vacation, educational leave, excellent retirement, health insurance and life insurance programs. Salary range open.

Contact: Robert F. Green, M.D.  
Chief of Staff  
VA Medical Center  
1600 Randallia Drive  
Fort Wayne, IN 46805  
(219) 426-5431, Ext 311

AN EQUAL OPPORTUNITY EMPLOYER



**Give your angina patient  
added protection...**



## **CARDIZEM<sup>®</sup>: FEWER SIDE EFFECTS**

diltiazem HCl/Marion

- The lowest incidence of side effects among the calcium channel blockers<sup>1</sup>**
- An exceptionally safe choice for angina patients with coexisting hypertension, diabetes, asthma, or COPD<sup>1-3</sup>**
- Proven efficacy when used alone in angina<sup>1,4-6</sup>**
- Compatible with both beta-blockers and nitrates<sup>7</sup>**

Please see brief summary of prescribing information on the next page.





# CARDIZEM<sup>®</sup> 60 mg tid or qid

## diltiazem HCl/Marion

### FEWER SIDE EFFECTS IN ANTIANGINAL THERAPY

#### BRIEF SUMMARY

CARDIZEM<sup>®</sup> (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist).

#### INDICATIONS AND USAGE

- Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
- Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

#### CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second or third degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

#### WARNINGS

- Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
- Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
- Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
- Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes (See PRECAUTIONS and ADVERSE REACTIONS).

#### PRECAUTIONS

**General.** CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes, however, these changes were reversible with continued dosing.

**Drug Interaction.** Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy

volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

**Carcinogenesis, Mutagenesis, Impairment of Fertility.** A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in *in vitro* bacterial tests. No intrinsic effect on fertility was observed in rats.

**Pregnancy.** Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM (diltiazem hydrochloride) in pregnant women only if the potential benefit justifies the potential risk to the fetus.

**Nursing Mothers.** It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

**Pediatric Use.** Safety and effectiveness in children have not been established.

#### ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence:

Cardiovascular	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope
Nervous System	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia
Gastrointestinal	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LOH
Dermatologic/Other	Pruritus, petechiae, urticaria, photosensitivity, Polynuria, nocturia

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme, leukopenia, and extreme elevations of alkaline phosphatase, SGOT, SGPT, LOH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

#### OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
-------------	---

High-Degree AV Block

Cardiac Failure

Hypotension

Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.

Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.

Vasopressors (eg, dopamine or levaterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral LD<sub>50</sub>'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD<sub>50</sub>'s in these species were 60 and 38 mg/kg, respectively. The oral LD<sub>50</sub> in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

#### DOSAGE AND ADMINISTRATION

**Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm.** Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

#### Concomitant Use With Other Antianginal Agents

- Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
- Prophylactic Nitrate Therapy** — CARDIZEM may be safely co-administered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
- Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

#### HOW SUPPLIED

CARDIZEM 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other. Issued 4/1/84

See complete Professional Use Information before prescribing.

064275

**References:** 1. *Physicians' Desk Reference*, ed 39 (Oradell, NJ, Medical Economics Company Inc, 1985). 2. Cohn PF, Braunwald E. Chronic ischemic heart disease, in Braunwald E (ed) *Heart Disease: A Textbook of Cardiovascular Medicine*, ed 2 (Philadelphia, WB Saunders Co, 1984, chap 39). 3. Schroeder JS. Calcium and beta blockers in ischemic heart disease. When to use which. *Mod Med* 1982; 50(Sept): 94-116. 4. Subramanian VB. Comparative evaluation of four calcium antagonists and propranolol with placebo in patients with chronic stable angina. *Cardiovasc Rev Rep* 1984; 5:91-104. 5. Schroeder JS, Feldman RL, Giles TO, et al. Multicentric controlled trial of diltiazem for Prinzmetal's angina. *Am J Med* 1982; 72:227-231. 6. Weiner DA, McCabe CH, Cutler SS, et al. The efficacy and safety of high-dose verapamil and diltiazem in the long-term treatment of stable exertional angina. *Clin Cardiol* 1985; 7:648-653. 7. Shapiro W. Calcium channel blockers: Actions on the heart and uses in ischemic heart disease. *Consultant* 1984; 24(Dec): 150-159.

Another patient benefit product from

**PHARMACEUTICAL DIVISION**  
**IV MARION**  
**LABORATORIES, INC.**  
KANSAS CITY, MO 64137



**Joseph S. Heed**  
**Account Executive**  
**200 Circle Tower**  
**Indianapolis, IN 46204**  
**(317) 632-3501**  
**Indiana Toll-Free**  
**800-382-1810**

**YES**, please send me without cost or obligation,  
the Thomson McKinnon Guide To:

- |   |   |
|---|---|
| <input type="checkbox"/> Corporate Bonds        | <input type="checkbox"/> Mutual Funds     |
| <input type="checkbox"/> Municipal Bonds        | <input type="checkbox"/> Preferred Stocks |
| <input type="checkbox"/> Unit Trusts            | <input type="checkbox"/> Tax-Shelters     |
| <input type="checkbox"/> Government Securities  | <input type="checkbox"/> Retirement Plans |
| <input type="checkbox"/> Zero-Coupon Muni Bonds | <i>(Choose up to three)</i>               |

Name \_\_\_\_\_

Address \_\_\_\_\_

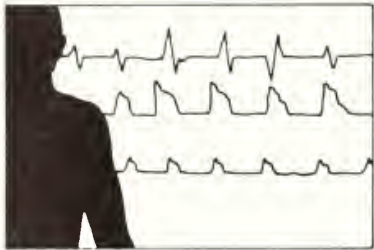
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Home Tel. \_\_\_\_\_ Bus. Tel. \_\_\_\_\_

Member of all principal exchanges

# HEMOFILTRATION

## Renal Replacement in the Critically Ill Patient



ADULT CRITICAL CARE MEDICINE

---

GEORGE W. APPLGATE, M.D.  
Indianapolis

---

### Hemofiltration Differs from Hemodialysis in That There Is No Dialysate Fluid, Artificial Kidney Machine, Blood Pump Or Dialysis Nurse Constantly Present . . .

The author is Medical Director, Inpatient Renal Services, Methodist Hospital of Indiana, Indianapolis, and a Clinical Assistant Professor, Indiana University School of Medicine.

Correspondence: Nephrology and Internal Medicine, 1801 N. Senate Blvd., Suite 355, Indianapolis, Ind. 46202

**F**LUID RESTRICTION is a basic treatment for patients with oliguric acute renal failure. Not infrequently, however, these patients are acutely ill in an intensive care setting and require a mandatory fluid load to provide antibiotics, vasopressors, total parenteral nutrition, etc. Removal of this excess fluid is one of the goals of peritoneal or hemodialysis. There are, however, an increasing number of patients who, because of symptomatic hypotension or technical problems with dialysis, do not tolerate these methods of fluid removal or such methods are ineffective.

Hemofiltration is a new extracorporeal process by which fluid (plasma water), electrolytes and small molecules (urea, creatinine, glucose, etc.) are removed from such patients by ultrafiltration over an extended period of time (days). This process is accomplished by connecting a hollow fiber type hemofiltration cartridge (Amicon Diafilter-20®) to the patient's vascular system. The cartridge, which is highly permeable to water, then acts as an ultrafilter. Proteins and cellular elements are maintained in the blood pathway, but a percentage of plasma water containing its dissolved solutes is allowed to pass out of the circulation through the pores of the hollow fiber membrane.

This technique differs from hemodialysis in that there is no dialysate fluid, artificial kidney machine, blood pump or dialysis nurse in constant at-

tendance. Hemofiltration is performed continuously, 24 hours a day until it is no longer needed as opposed to intermittent three-four hour hemodialysis treatments. The techniques also differ in the way solutes are removed. With hemodialysis, solutes diffuse across a semipermeable membrane into a dialysis solution because of their concentration gradient. During hemofiltration, the hydrostatic pressure created by the patient's own arterial pressure creates an ultrafiltrate of plasma, and solutes are removed by convective mass transport.

Hemofiltration was pioneered by Dr. Peter Kramer in Germany in 1977.<sup>1,3</sup> Numerous investigators have established its efficacy as a method of renal replacement therapy, especially in patients with vascular instability.<sup>4,8</sup>

The following case history represents the type of clinical situation in which hemofiltration is useful.

A 72-year-old man was admitted with a ruptured abdominal aneurysm. During surgery he required 12 units of blood and was hypotensive and oliguric. Because of bleeding, a second abdominal surgery was needed. Forty-eight hours after admission he was receiving two vasopressors, antibiotics and parenteral nutrition. His weight had increased 10 kg from admission and intense ventilator support was needed. His oliguria persisted despite fluid resuscitation and diuretics. Because of increasing fluid overload and azotemia, a nephrology consultation was obtained. Peritoneal dialysis was not feasible because of recent abdominal surgery. Hemodialysis was attempted, but abandoned after two hours because of persistent hypoten-



sion requiring further fluid replacement. Hemofiltration was thus initiated with the removal of 12 kg of body weight in 2-1/2 days despite three liters per day of IV fluids. By this time, vascular stability had been restored and hemodialysis was begun.

Peritoneal dialysis may not always be possible in patients with recent abdominal surgery, perforated abdominal organs or a perforated diaphragm. Likewise, previous abdominal surgery may make placement of a peritoneal catheter difficult or dangerous. One major advantage of hemofiltration is the slow continuous removal of small amounts of fluid, thus avoiding the drastic volume changes and fluid shifts that occur when fluid is rapidly removed during hemodialysis. Sharp fluctuations in plasma osmolality, pH, electrolyte concentrations and blood gas tensions that occur with hemodialysis, and may result in vascular instability and difficult fluid removal, are also avoided with hemofiltration.

Hemofiltration consists of two separate but continuous treatment modalities: fluid and toxin removal. If only excess fluid is to be removed, then ultrafiltration rates (UFR) of 200-300 ml/hour are used and the process is called slow continuous ultrafiltration (SCUF). If uremic toxins, as well as fluid, are to be removed, then UFRs of 300-1,000 ml/hour are required and the process is called continuous arteriovenous hemofiltration (CAVH). With CAVH, most of the ultrafiltrate must be replaced intravenously each hour by a diluting or physiologic replacement fluid (RF). This RF, usually a modified Ringer's Lactate solution, not only prevents hypovolemia and hypotension, which would rapidly occur at these UFRs, but also serves to dilute the patient's serum and hence lower the concentration of uremic toxins. The concentration of urea in the ultrafiltrate is the same as its concentration in the plasma, i.e., if the patient's BUN is 100 mg/dl, the urea content of the ultrafiltrate is also 100 mg/dl, or 1.0 gm/liter. If one liter of ultrafiltrate con-

taining one gram of urea is removed from the patient and replaced with one liter of RF containing no urea, the concentration of urea in the blood is diluted and thus lowered.

The efficacy of CAVH depends upon how much urea is produced by the patient. Urea generation rates during acute renal failure vary between 10 and

---

### **This Technique Is Performed Around the Clock Until It Is No Longer Needed**

---

30 gm/day, depending upon the patient's catabolic rate and nitrogen intake. Thus, if 14 gms of urea are made per day, then 14 liters of ultrafiltrate must be removed each day to keep the BUN below 100 mg/dl. An equilibrium can eventually be reached at which the removal of urea by ultrafiltration equals the generation rate. At this point, the BUN will remain stable. This partial removal of uremic toxins may decrease the frequency or need for hemodialysis. In catabolic patients, CAVH usually only serves to decrease dialysis frequency or maintain the patient until hemodynamic stability is restored and hemodialysis can be performed.

Other possible users for hemofiltration include diuretic resistant acute pulmonary edema, intractable congestive heart failure, diuretic resistant nephrotic syndrome, unstable newborns in acute renal failure,<sup>9</sup> acute renal failure in pregnancy,<sup>10</sup> and unstable fluid overloaded chronic hemodialysis patients. Hemofiltration has been used in the treatment of the adult respiratory distress syndrome in which the improvement in ventilatory function could not be explained by fluid removal alone. It has been postulated

that the filtration process may remove unknown substances responsible for increased alveolar capillary permeability.<sup>11</sup>

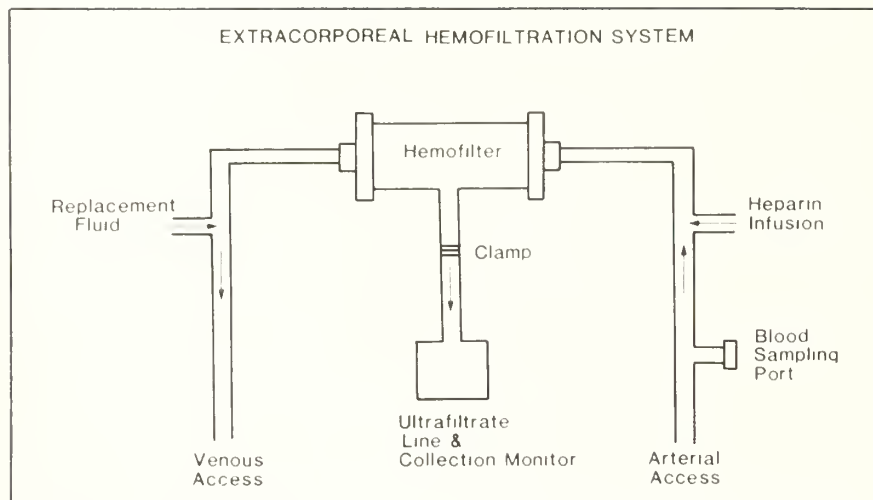
The Amicon Diafilter-20<sup>®</sup> hemofilter consists of a bundle of approximately 5,000 parallel hollow fibers made of polysulfone. The cartridge containing the fibers has arterial, venous and ultrafiltrate ports. It has a surface area of 0.25 sq. meters and a priming volume of only 25 ml. Resistance is low in the cartridge and a systolic blood pressure of 80 mmHg is adequate to provide a blood flow rate of 30 ml/min. with resultant adequate filtration.<sup>12</sup>

Hemofiltration is initiated by the insertion of an arteriovenous shunt or the placement of large bore catheters into a femoral artery and vein. The patient is weighed and an arterial line and pulmonary artery catheter are inserted if not already in place. The hemofilter is primed with heparinized saline and a base line activated clotting time (ACT) is drawn. The object of heparinization is to prevent the filter from clotting. However, patients with preexisting coagulation disorders frequently may require no heparin.<sup>13</sup>

A loading dose of heparin is given (20 units/kg), and a constant heparin infusion is started to administer approximately 10 units/kg/hour. Frequent bedside ACTs are performed in an attempt to keep the ACT between 1 1/2 to two times base line. Frequent adjustments of the heparin infusion are often needed.

The patient is then "bled" from the arterial access into the filter as the patient's own blood pressure and associated arteriovenous pressure gradient propels the blood through the filter. After passage through the filter, the blood returns to the venous circulation (*Figure*).

The ultrafiltration rate (UFR) is then established based upon the type of hemofiltration desired. The ultrafiltrate drains into an electronic fluid collection monitor giving an updated UFR every minute. A standard urine collection bag apparatus can be used but fre-



quent monitoring of ultrafiltrate volume is required. Blood pressure (positive hydrostatic pressure) is the major determinant of the UFR and a systolic pressure of 80 mmHg is sufficient to keep the extracorporeal circuit open and filtering. If a greater UFR is needed, a vacuum (negative hydrostatic pressure) can be created in the ultrafiltrate line by increasing the vertical (gravitational) distance between the hemofilter cartridge and the drainage monitor, i.e., by raising the height of the bed and thus increasing the height and thus the weight of the ultrafiltrate fluid column. Tightening a screw clamp on the same filtrate line will decrease the UFR. Intravascular oncotic pressure opposes the positive hydrostatic pressure created and the net transmembrane pressure. Therefore, UFR is a result of the interaction of three forces, i.e., positive and negative hydrostatic pressure and oncotic pressure.

Other determinants of UFR include the type of vascular access used, blood tubing size, surface area of the filter (several sizes are available), membrane characteristics (several chemical types are available)<sup>14</sup> and hematocrit (high hematocrits result in increased blood viscosity and decreased UFR).

Intensive monitoring is necessary during hemofiltration and especially during CAVH. Continuous measure-

ment of blood pressure, UFR and intrathoracic or intracardiac pressures is necessary. Hourly measurements of intake, output and ACT are performed. Daily weights are usually used, but continuous weighing is ideal. Laboratory values of BUN, creatinine, electrolytes, and hematocrit are obtained twice daily or as needed.

An unanticipated decrease in the UFR may be due to kinking of the blood lines, clotting in the filter or low blood pressure. Kinked lines are easily corrected. A clotted filter is identified by injecting 50-100 cc of heparinized saline into the filter and observing for the presence of clots. If significant clotting has occurred (UFR < 200 ml/hour) the filter should be changed. Low blood pressure requires the rapid administration of saline or replacement fluid until the blood pressure and UFR are restored to their previous values. Vasopressors may be needed or their rates increased if already infusing. Albumin (5% or 25%) may be used to restore the intravascular volume, but these solutions may increase the intravascular oncotic pressure resulting in a further drop in UFR. Every effort should be made to restore the blood pressure before clamping the ultrafiltrate line and discontinuing the filtration even for a short period of time.

If hemofiltration is continued

without adequate replacement fluid or without careful monitoring, there is an increase in the patient's hematocrit and plasma proteins and a slow fall in blood pressure. These factors cause a concomitant fall in the UFR, preventing a further drop in blood pressure. Ultrafiltration and dehydration are self-limited.

The potential advantages of hemofiltration are summarized in the Table. Several potential hazards, however, exist in the performance of hemofiltration. Improperly formulated replacement fluid will result in electrolyte imbalance. As previously mentioned, careful monitoring and adequate replacement fluid volume is necessary to prevent symptomatic hypotension. Inadequate UFRs may result in hypervolemia and pulmonary edema. Without large UFRs or intermittent hemodialysis, azotemia and symptomatic uremia will ensue.

When coagulation studies are normal, adequate heparinization is necessary to prevent filter and vascular access clotting. Systemic bleeding, especially in patients with a pre-existing coagulopathy, continues to be the most frequent and serious side effect of hemofiltration. Regional heparinization, with the infusion of protamine into the venous line to neutralize the heparin as it leaves the filter and before it returns to the patient, or the use of heparin alternatives such as prostacycline, may decrease the incidence of serious bleeding.<sup>15</sup>

Hemofiltration may act as an extracorporeal route of drug elimination. Pharmacokinetic studies are few, but those drugs that are distributed primarily in extracellular fluid, have little protein binding, and are of small molecular weight would be expected to be the most affected. Serum drug concentrations should be measured frequently during hemofiltration to ensure adequate therapeutic levels.<sup>16</sup>

Hemofiltration is a relatively new approach to renal replacement therapy and is especially useful for the fluid overloaded patient who is hemo-

TABLE  
Advantages of Hemofiltration

- Hemodynamic stability due to slow continuous treatment
- Allows administration of large volumes of fluid and parenteral nutrition without overhydration
- May reduce the frequency of diffusion dialysis
- Hypotension is self-limited, i.e. if blood pressure falls, filtration declines
- Decreased need for systemic anticoagulation
- No expensive special equipment
- Constant attendance by personnel specially trained in hemodialysis is not required
- Ease of operation
- Cost equivalent

dynamically unstable. Careful monitoring in an intensive care setting is necessary to prevent complications. Further experience with this technique may reveal other indications for its use.

#### REFERENCES

1. Kramer P, et al: Arterio venous hemofiltration: a new and simple method for overhydrated patients resistant to diuretics. *Klin Wochenschr*, 55:1121-1122, 1977.
2. Kramer P, et al: Intensive care potential of continuous arterio-venous hemofiltration. *Trans Am Soc Artif Intern Organs*, 28:28-32, 1982.
3. Kramer P, et al: Management of anuric intensive care patients with arterio-

venous hemofiltration. *Int J Artif Organs*, 3:225-230, 1980.

4. Olbricht C, et al: Treatment of acute renal failure in patients with multiple organ failure by continuous spontaneous hemofiltration. *Trans Am Soc Artif Intern Organs*, 28:33-37, 1982.
5. Paganini EP, Nakamoto S: Continuous slow ultrafiltration in oliguric acute renal failure. *Trans Am Soc Artif Intern Organs*, 26:201-204, 1980.
6. Lauer A, et al: Continuous arterio-venous hemofiltration in the critically ill patient: clinical use and operational characteristics. *Ann Intern Med*, 99:455-460, 1983.
7. Kaplan AA, Longnecker RE, Folkert VW: Continuous arterio-venous hemofiltration: a report of six months'

experience. *Ann Intern Med*, 100:358-367, 1984.

8. Arkady S, et al: Acute renal failure treated by slow continuous ultrafiltration. *Mayo Clin Proc*, 58:729-733, 1983.
9. Ronco C, et al: Treatment of acute renal failure in the newborn by continuous arteriovenous hemofiltration. *Abstracts Am Soc Artif Intern Organs*, 14:35, 1985.
10. Graben N, et al: Successful hemofiltration for acute renal failure in pregnancy. *Abstracts Am Soc Artif Intern Organs*, 14:56, 1985.
11. Gotloib L, et al: Sequential hemofiltration in nonoliguric high capillary permeability pulmonary edema of severe sepsis. *Crit Care Med*, 12:997-1000, 1984.
12. Amicon Diafilter Operating Instruction, Danvers, Massachusetts: Amicon Corporation Scientific Systems Division, Publication No. 1-232B, 1983.
13. Eisele G, Paganini EP: Heparin-free continuous acute renal replacement therapy. *Abstracts Am Soc Artif Intern Organs*, 14:46, 1985.
14. Schneider H, Streicher E: Technical aspects of hemofiltration. *Dialysis and Transplantation*, 8:371-374, 1979.
15. Zusman RM, Rubin RH, et al: Hemodialysis using prostacyclin instead of heparin as the sole anti-thrombotic agent. *N Engl J Med*, 304:934-939, 1981.
16. Lehman ME, Kolb KW: Gentamycin elimination in a patient undergoing continuous ultrafiltration. *Clin Pharm*, 4:327-330, 1985.

## INDIANA MEDICAL BUREAU

1010 East 86th St.—72 Winterton

Indianapolis 46240

844-7933

A Licensed Employment Agency  
Specializing in Medical Personnel

Since 1952



# Pericardial Based Thymoma: Diagnosis by Fine Needle Aspiration

DOUGLAS E. EGLEN, M.D.  
Indianapolis

**M**ASSES OF THE pericardium are unusual in adults. Because this patient presented with a severe anemia and reticulocytopenia, a diagnosis of pure red cell aplasia was considered in association with an unusually located thymoma.<sup>1,2</sup> The anterior or superior mediastinum is the site of origin of thymoma in more than 95% of patients.<sup>3,4</sup> The site of the lesion reported below (attached to the right pericardium in the middle mediastinum) was accessible to fine needle aspiration as an initial invasive diagnostic procedure.

## Case Report

A 61-year-old non-smoking woman was evaluated for easy fatigability, palpitations, diarrhea and a 15-pound weight loss over the last six months. Her medical history included a "cyst on my heart" known to have been present for at least five years. Physical examination revealed marked pallor, a 3/6 systolic murmur and a fourth heart sound. She had a severe normochromic, normocytic anemia (Hgb. 3.5 g/dl, Hct 11) with no reticulocytes seen on supravital staining. Subsequent reticulocyte counts (after red cell transfusion) ranged from 7000-24000/ $\mu$ l. Other hematologic investigations were

This article was written while the author was a Pathology Resident at Methodist Hospital of Indiana, Indianapolis. He is now a Fellow in Surgical Pathology at Indiana University Medical Center.

Correspondence: 213 N. 15th Ave., Beech Grove, Ind. 46107.

## Abstract

An anemic 61-year-old woman presented with a pericardial based mass. A wide range of differential diagnoses were considered for this unusual site. Fine needle aspiration of the tumor provided a diagnosis of spindle cell thymoma. Definitive resection was performed.

normal (WBC, platelets, iron studies, folate, B<sub>12</sub>, haptoglobin, antiglobulin tests, cold agglutinins, acid and sucrose hemolysis tests). The serum globulin was 0.7 gm/dl (normal 0.7-1.7). Touch preparations were made of a bone marrow biopsy core after attempted aspiration resulted in a "dry tap." These showed a hypocellular marrow with a markedly increased myeloid to erythroid ratio (over 10:1) and absent erythroid islands. Other elements of the marrow were normal.

The admitting chest roentgenogram demonstrated a large mass at the right base which silhouetted the right cardiac border. Computed tomography showed a solid mass 8.0 cm. in diameter within the middle lobe of the right lung which obliterated the right pericardial border (*Fig 1*). Cardiac radionuclide scans and ejection fraction were normal. Cytologic examination of sputum and pleural fluid showed no suspicious or malignant cells. Under fluoroscopy a fine needle aspiration of the pericardial based mass was performed using a 20 gauge needle and an 18 gauge Franzen cutting needle. Cytologic examination revealed large fragments, often with frayed margins. These fragments consisted of a biphasic pattern of medium size spindled epithelial cells and small lymphocyte like cells.

Mitotic figures were only occasionally present. Dense fibrous tissue strands outlined some of the nests in larger fragments (*Fig 2*).

Thoracotomy was subsequently carried out. The mass was excised with a small rim of pericardium. There was no clinical evidence of invasion of any other tissue. Lymph nodes of the mediastinum appeared normal. The tumor was rubbery, lobulated, tan, 9.0 cm. in diameter and weighed 290 grams (*Fig 3*). Light microscopy showed similar nests of cells with a biphasic pattern surrounded by dense fibrous septa. Routine electron microscopic techniques showed spindle and stellate epithelial cells, 20-30  $\mu$  in length, with interdigitating cell processes and well defined external laminae. Cytoplasmic features were similar to those described for spindle cell thymoma.<sup>5</sup> T lymphocytes, measured by sheep red cell rosette methods, constituted 96% of the harvested cells. Surface marker studies using IgG, IgA, IgM, kappa and lambda light chains were considered normal.

The patient had a normal recuperative period with release from the hospital on the sixth postoperative day.

## Discussion

Masses of the middle mediastinum include lymphoma, bronchogenic and pericardial cysts, sarcoidosis, lipoma, plasma cell myeloma, vascular tumors, epicardial fat, and hiatal hernia. Additionally, thymic cysts/neoplasms, teratoma and aortic body tumors are lesions found around the heart.<sup>6</sup> Rarely, neural tumors may arise in this area derived from the vagus nerve or cardiac plexus.<sup>7,8</sup> In combined series representing 1,687 patients with mediastinal cysts/tumors analyzed by

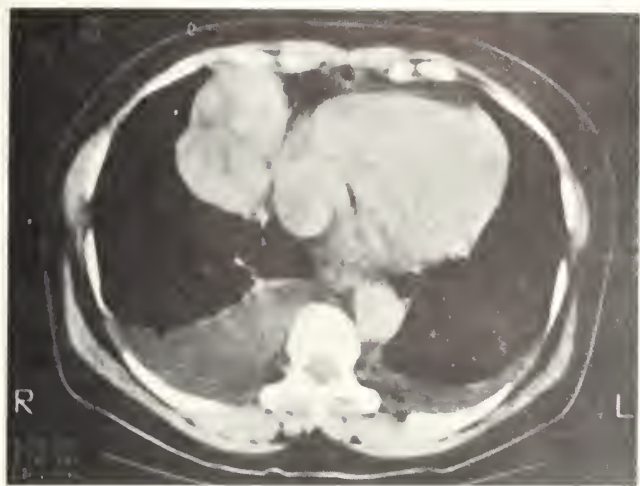


FIGURE 1: Computed tomography of the chest demonstrates a mediastinal mass attached at its base to the pericardium at the level of the right atrium. No invasion into other intrathoracic structures was present.



FIGURE 2: True tissue fragment obtained by needle biopsy composed of spindle cells and small lymphocyte-like cells. (H&E, x40).

Silverman and Sabiston, thymoma accounted for about 20% of lesions.<sup>1</sup> Most commonly, the anterior or superior mediastinum is the site of thymoma.<sup>3,4</sup>

The path of embryologic migration of the thymus allows for thymic tissue to be located from the neck to the diaphragm. In the fifth week of fetal life cells of the primitive thymus gland in the ventral aspect of the third branchial pouch, in association with pericardium, descend into the mediastinum. Thymic cysts arising in the pericardium, therefore, are likely to be derived from cells which fail to completely separate from the pericardial anlage.<sup>9,10,11</sup> Podolsky, *et al.* reported such a thymic cyst which was of particular interest because it simulated the classic roentgenographic picture of a pericardial cyst.<sup>12</sup> It is likely that benign thymomas originating from such rests may involve the pericardium in a similar manner.<sup>8</sup>

Cytologically, the spindle cell pattern of the cells in the needle biopsy gives rise to additional differential diagnoses. Other rare mediastinal or pericardial tumors which may demonstrate spindle cell patterns include neurofibroma,<sup>13</sup> malignant nerve sheath neoplasms, mesothelioma,

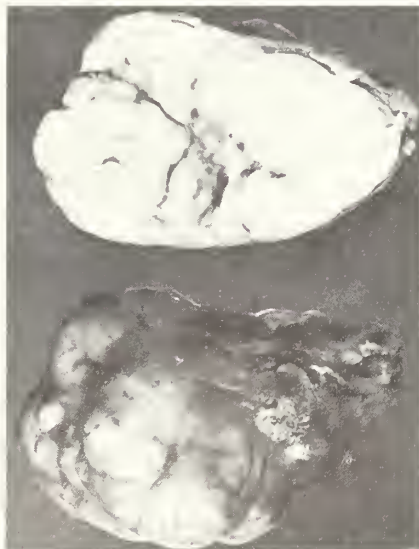


FIGURE 3: Thymoma. The capsule is lacerated at the point of attachment to the pericardium. (approx. x 1 mag.).

fibrosarcoma, malignant fibrous histiocytoma,<sup>8</sup> rhabdomyosarcoma,<sup>14</sup> leiomyoma,<sup>15</sup> leiomyosarcoma,<sup>16</sup> oat cell carcinoma and carcinoid tumor. However, none of these would typically demonstrate benign epithelial features plus a significant population of lymphocyte-like cells as were present in our case.

Dahlgren, *et al.* reported 21 cases of thymoma diagnosed by needle aspiration biopsy.<sup>17</sup> Cytologic characteristics included abundant tissue fragments with a biphasic cell pattern consisting partly of dissociated cells and partly of fringed cell complexes. Tao, *et al.* further defined cytologic subsets of thymoma in a series of 37 patients.<sup>18</sup> There were a total of nine thymomas with spindle cell features in the two series, but none reported as being associated with red cell hypoplasia.

Our case demonstrates the practical importance of recognizing the various cytologic subsets of thymoma, since red cell aplasia is commonly associated with the spindle cell pattern.<sup>3</sup> Needle aspiration biopsy provides early diagnosis and enables one to prepare for specialized procedures.

#### REFERENCES

1. Silverman NA, Sabiston DC Jr: Primary tumors and cysts of the mediastinum. *Curr Probl Cancer*, 2:1-55, 1977.
2. Williams WJ, Beutler E, Ersler AJ, Lietman MA: *Red cell aplasia*. McGraw Hill, New York, 409-415, 1983.
3. Rosai J, Levine GD: *Tumors of the thymus*. *Atlas of tumor pathology*. Second series, Fascicle 13. Washington DC. Armed Forces Institute of Path-



- ology. Washington DC, 38-42, 137-138, 1976.
4. Gray GF, Gutowski WT: Thymoma. A clinicopathologic study of 54 cases. *Am J Surg Pathol*, 3:235-249, 1979.
  5. Levine GD, Bensch KG: Epithelial nature of spindle cell thymoma. *Cancer*, 30:500-501, 1972.
  6. Rosenberg JC: Neoplasms of the mediastinum. In *Cancer. Principles and practice of oncology*. Ed. DeVita VT, Hellman S, Rosenberg SA. J.B. Lippincott, Philadelphia, 475-498, 1982.
  7. McCallister HA Jr, Fenoglio J: Tumors of the cardiovascular system. Atlas of tumor pathology. Armed Forces Institute of Pathology, Washington DC, Fascicle 15:70, 107, 1977.
  8. McCallister HA Jr: Primary tumors of the heart and pericardium. *Pathol Annu*, 14:325-355, 1979.
  9. Indeglia RA, Shea MA, Grace TB: Congenital cysts of the thymus gland. *Arch Surg*, 94:149-152, 1967.
  10. McCafferty MH, Bahnson HT: Thymic cyst extending into the pericardium: A case report and review of thymic cysts. *Ann Thoracic Surg*, 33:503-506, 1982.
  11. Zanca P, Chuang TH, De Avila R: True congenital mediastinal thymic cyst. *Pediatrics*, 36:615-619, 1965.
  12. Podolsky S, Ehrlich EW, Howard JM: Congenital thymic cyst attached to the pericardium: Case report and review of the literature. *Dis Chest*, 42:642-644, 1962.
  13. Keller WL, Callender GR: Neuro-fibroma arising in the pericardial pleura. *Ann Surg*, 92:666-671, 1930.
  14. DeLuca WM, Soderberg CH Jr, Riley RS, O'Shea PA, Griffiths GS: Solitary rhabdomyosarcoma of the pericardium: A case report and pathology discussion. *Rhode Island Med J*, 63:79-83, 1980.
  15. Brandes WW, Gray JAC, MacLeod NW: Leiomyoma of pericardium. *Am Heart J*, 23:426-432, 1942.
  16. Kennedy FB: Primary leiomyosarcoma of the heart. *Cancer*, 20:2008-2012, 1967.
  17. Dahlgren S, Sandstedt B, Sundstrom C: Fine needle aspiration cytology of thymic tumors. *Acta Cytol*, 27:1-6, 1983.
  18. Tao LC, Pearson FG, Cooper JD, Sanders DE, Weisbrod G, Donat EE: Cytopathology of thymoma. *Acta Cytol*, 28:165-170, 1984.



## Progressive, in-patient treatment of anorexia and bulimia is as close as Grand Rapids.

Located on quiet, landscaped grounds, the Eating Disorders Program at Forest View Psychiatric Hospital provides top quality care for persons seeking the intimacy of a small, private psychiatric hospital. And, it currently ranks as the only one of its kind in West Michigan.

The program features a treatment milieu that is thorough and professional, administered by an experienced and qualified staff. Programs are available for both adolescents and adults. And admissions are processed quickly, with referrals accepted 24 hours a day.

For complete information about the Eating Disorders Program at Forest View, contact the Director of Social Services. For quality care. That's also close to home.



**FOREST VIEW PSYCHIATRIC HOSPITAL**

1055 Medical Park Drive, S.E.  
Grand Rapids, MI 49506  
(616) 942-9610



is not indicated for initial therapy of edema or hypertension. If hypertension requires therapy titrated to the individual, the combination represents the dosage so determined, its use is convenient in patient management. Treatment of hyperedema is not static, but must be reevaluated as each patient's warrant.

not use potassium supplements, dietary or otherwise, if serum potassium is low. Hypokalemia develops or dietary intake of potassium is markedly decreased, supplemental potassium is needed, potassium tablets should be used. Hyperkalemia can occur, and has been associated with renal insufficiency. It is more likely in the severely ill, with urine output less than one liter/day, the elderly and diabetics with suspected renal insufficiency. Periodically serum K<sup>+</sup> levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict potassium intake, and if severe, consider dialysis. **Associated widened QRS complex or arrhythmia requires immediate therapy.** Thiazides cross the placental barrier and are excreted in breast milk. Thiazide therapy during pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, hypokalemia, and other adverse reactions seen in adults. Thiazides are contraindicated in pregnancy. Thiazide therapy during lactation may appear in breast milk. If their use is essential, nursing should be stopped. Adequate information on use in children is lacking. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation of systemic lupus erythematosus has been reported with thiazides.

The bioavailability of the hydrochlorothiazide component of about 50% of the bioavailability of the single entity in patient transferred from the single entities of triamterene thiazide may show an increase in blood pressure or fluid. It is also possible that the lesser hydrochlorothiazide could lead to increased serum potassium levels. However, clinical experience with 'Diazide' suggests that these conditions are commonly observed in clinical practice. Angiotensin-converting enzyme (ACE) inhibitors can elevate serum potassium, and 'Diazide' Do periodic serum electrolyte determinations are important in patients vomiting excessively or receiving diuretics, and during concurrent use with amphotericin B or corticosteroids (ACTH). Periodic BUN and serum creatinine determinations should be made, especially in the elderly. Those with suspected or confirmed renal insufficiency. Effects of the drug may develop in patients with impaired renal function should be used with caution in patients with impaired renal function. They can precipitate coma in patients with severe liver disease regularly for possible blood dyscrasias, liver damage, allergic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, neutropenia, and aplastic and hemolytic anemia have been reported. Thiazides may cause manifestation of latent diabetes. Effects of oral anticoagulants may be decreased when they are used with hydrochlorothiazide, dosage adjustments may be necessary. Insignificant reductions in arterial responsiveness have been reported. Thiazides have also been shown to have a synergistic effect of nondepolarizing muscle relaxants such as triamterene is a weak folic acid antagonist. Do periodic creatinine with splenomegaly. Antihypertensive effects are reduced in post-sympathectomy patients. Use cautiously in patients with renal stones. Triamterene has been found in renal stones in association with usual calculus components. Therefore, 'Diazide' should be used in patients with histories of stone formation. Cases of acute renal failure have been reported in patients treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with thiazides may occur, transient elevated BUN or creatinine, hypokalemia and glycosuria (diabetic insulin requirements may be increased) and gout, digitalis intoxication (in hypokalemia), and reserve with possible metabolic acidosis. 'Diazide' should be used with caution. Fluorescent measurement of quinidine. Hypokalemia is a common side effect of 'Diazide', but should it develop, corrective measures such as potassium supplementation or increased dietary potassium-rich foods. Corrective measures should be instituted if serum potassium levels determined. Discontinue corrective measures if 'Diazide' should laboratory values reveal elevated potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpromazine may increase the risk of hypotension. Serum PBI levels may decrease without signs of hypothyroidism. Calcium excretion is decreased by thiazides. Thiazides should be withdrawn before conducting tests for parathyroid hormone. They may add to or potentiate the action of other antihypertensives. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Reactions: Muscle cramps, weakness, dizziness, headache, myalgias, rash, urticaria, photosensitivity purpura, other allergic reactions, nausea and vomiting, diarrhea, constipation, drowsiness, ataxia, vertigo, postural hypotension (may be alcohol barbiturates), hypotension, necrotizing vasculitis, hepatitis, pancreatitis, xanthopsia and respiratory distress. Anaphylaxis and pulmonary edema, transient blurred vision, vertigo have occurred with thiazides alone. Triamterene is found in renal stones in association with other usual calculus components. Incidents of acute interstitial nephritis have been reported. An association has been reported in a few patients on 'Dyazide' (a combination of triamterene and hydrochlorothiazide) and a causal relationship has not been established.

de' is supplied as a red and white capsule, in bottles of  
Single Unit Packages (unit-dose) of 100 (intended for  
only); in Patient-Pak™ unit-of-use bottles of 100.

# Remember the Unique Red and White Capsule: Your Assurance of SK&F Quality

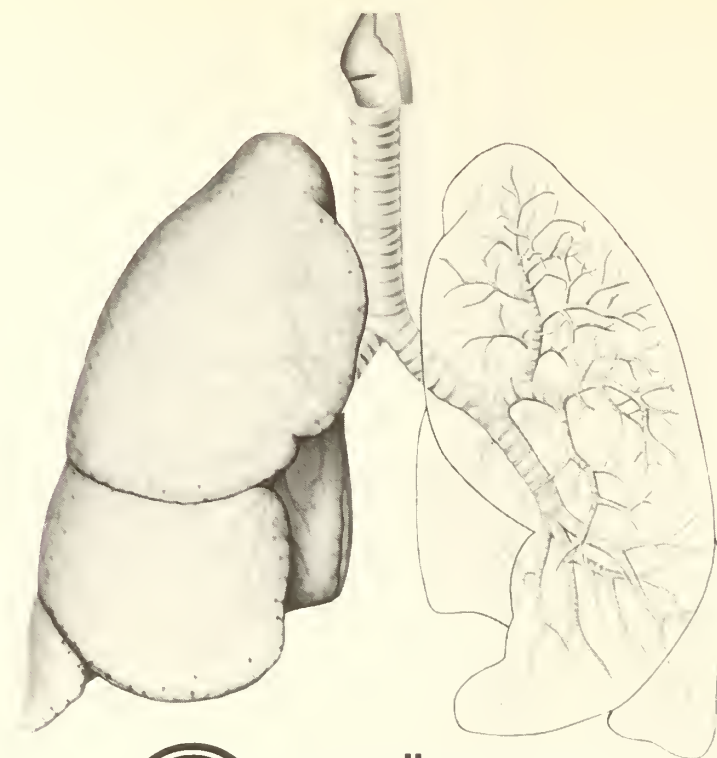
A photograph of a hexagonal object, possibly a stylized pencil or a piece of art. The object is oriented diagonally, with its red, faceted tip pointing towards the bottom left. The red section is a vibrant, glossy red. The middle section is a white band. The larger, rear section is a light cream or off-white color, also with a hexagonal shape. The background is a plain, light-colored surface.

Carolina, P.R. 00630



WAX  
SIX

# Consider the causative organisms...



**Ceclor<sup>®</sup>**  
cefactor

**250-mg Pulvules<sup>®</sup> t.i.d.**  
**offers effectiveness against**  
**the major causes of bacterial bronchitis**

***Haemophilus influenzae*, *H influenzae*, *Streptococcus pneumoniae*, *Streptococcus pyogenes***  
(ampicillin-susceptible) (ampicillin-resistant)

**Note:** Ceclor<sup>®</sup> is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

#### **Ceclor<sup>®</sup>** (cefactor)

**Summary:** Consult the package literature for prescribing information.

**Indications:** Lower respiratory infections, including pneumonia, caused by susceptible strains of *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci).

**Contraindications:** Known allergy to cephalosporins.

**Warnings:** CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-

associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

#### **Precautions:**

- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- In renal impairment, safe dosage of Ceclor may be lower than that usually recommended. Ceclor should be administered with caution in such patients.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor

penetrates mother's milk. Exercise caution in prescribing for these patients.

#### **Adverse Reactions:** (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:

- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, erythema multiforme, serum-sickness-like reactions): 1.5%; usually subside within a few days after cessation of therapy. These reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%.

#### **Abnormalities in laboratory results of uncertain etiology**

- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children).
- Abnormal urinalysis; elevations in BUN or serum creatinine.
- Positive direct Coombs' test.
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest<sup>®</sup> tablets but not with Tes-Tape<sup>®</sup> (glucose enzymatic test strip, Lilly).

© 1986, ELI LILLY AND COMPANY (060485LR)

**Lilly**

Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285

Eli Lilly Industries, Inc.  
Carolina, Puerto Rico 00630

600332



# Chronic Ear Disease and Cerebrospinal Fluid Otorrhea

GEORGE W. HICKS, M.D.  
J. WILLIAM WRIGHT III, M.D.  
WILLIAM C. LELIEVER, M.D.  
Indianapolis

## Abstract

The association of cerebrospinal fluid (CSF) otorrhea with chronic ear disease is uncommon but its potential for life-threatening sequelae is most serious. The erosive action on bone by the disease itself with penetrance into some part of the subarachnoid space or as a result of previous surgery for chronic ear disease may result in CSF otorrhea. In this modern era of antibiotic intervention and early diagnosis, the destructive potential of chronic ear disease is generally less familiar to the general medical community. Eleven representative cases are presented which emphasize the presence of this life-threatening situation. The diagnostic medical and surgical treatment is discussed.

THE ASSOCIATION OF CSF otorrhea with chronic ear disease with or without cholesteatoma is relatively uncommon but its potential for life-threatening complication is of utmost concern. CSF otorrhea is a rare condition resulting from a fistulous connection between the subarachnoid space and the tympanic cavity. The most common causes of CSF otorrhea in descending order are: (1) trauma, especially skull-base fractures; (2) ear surgery; (3) chronic destructive ear disease; and (4) congenital.

Since unrecognized and persistent CSF otorrhea is not only life-threatening but associated with neurologically debilitating conditions such as meningitis, pneumocephalus and hydrocephalus, it is of paramount importance that the examining physician realize that ear drainage could be CSF. An understanding of the damaging effects of chronic ear disease leading to CSF otorrhea, a systematic methodology in securing a diagnosis, and a swift, prompt, and curative medical/surgical attack must be implemented.

Eleven cases of chronic ear disease with associated CSF otorrhea have

been encountered by the authors in the past 10 years; seven of 11 cases occurred in association with temporal lobe abscess. The data on these patients are presented in *Table 1*. All patients had a history of numerous courses of systemic antibiotics as well as local ear drop solutions.

## Case Reports—Infection

**Case 1:** A 35-year-old woman. History: Bilateral aural discharge and hearing loss since childhood. Bone conduction aid right, air conduction aid left. Physical: Bilateral perforations. Audiograms: Bilateral conductive losses. X-rays: Questionable tegmen defect right. Surgical Findings: Right temporal lobe abscess with spinal fluid leak at edge of capsule; cholesteatoma; tegmen defect 2 cm over posterior antrum. Treatment: T-tube drainage of abscess; Type III reconstruction. Follow-up: Dry ear, normal hearing.

**Case 2:** A 42-year-old man. History: Hearing loss with discharge bilaterally over 20 years. Right radical and left modified radical mastoid surgery as child. Bilateral bone conduction hearing aids. Physical: Cholesteatoma with

TABLE 1  
Chronic Ear Disease/CSF Otorrhea—11 Cases

Number of Cases	11
Age range (years)	5-61 (37.6 average)
Duration of ear symptoms (discharge, hearing loss, otalgia)	1 Month - 49 years (21.6 years average)
Previous surgery (4 cases)	Radical mastoid (Case 8) Simple mastoid, tympano x 2 (Case 9) Modified radical (Case 2) Simple mastoid (Case 11)

From the Ear Institute of Indiana and Wright Institute of Otolaryngology, 8103 Clearvista Parkway, Indianapolis, Ind. 46256.



purulent discharge bilaterally. Audiogram: Bilateral mixed loss. Polytomes: Left tegmen defect over antrum. Surgical Findings: Cholesteatoma and 2 cm tegmen defect with temporal lobe abscess. CSF leak with drainage of abscess. Treatment: Left radical mastoidectomy with T-tube, drainage of abscess. Follow-up: Dilantin® required for local seizure disorder. In 1968, patient developed CSF leak from tegmen area. Closed with free muscle graft and fascia. Asymptomatic since then. Persistent hearing loss.

Case 3: A 40-year-old man. Symptoms: Intermittent aural discharge with hearing loss, left ear for 10 years. No other symptoms. Physical: Chronic ear with cholesteatoma. Audiogram: Mixed loss with 45 dB conductive component. Polytomes: Tegmen perforation over aditus, ossicular destruction, possible horizontal canal fistula, cholesteatoma. Surgical Findings: Tegmen defect 1 cm with temporal lobe abscess over aditus, clear discharge with probing; extensive cholesteatoma. Treatment: Left radical mastoidectomy; T-tube drainage of abscess; temporalis fascia over defect. Follow-up: Asymptomatic; persistent hearing loss.

Case 4: 1967. A 37-year-old woman. History: Hearing loss with intermittent discharge of left ear for 15 years. Dizziness for 5 months. Physical: Attic perforation with cholesteatoma. Audiogram: 30 dB conductive loss. Polytomes: Tegmen defect in posterior antral area, ossicular damage, possible horizontal canal fistula. Surgical Findings: Tegmen defect of 1 cm with temporal lobe abscess and CSF leak; cholesteatoma. Treatment: Radical mastoidectomy with drainage of abscess and temporalis fascia over defect. Follow-up: Asymptomatic. Persistent hearing loss.

Case 5: A 41-year-old man. History: Unilateral hearing loss, dizziness, otalgia for one month. Physical: Pinpoint attic perforation, cloudy aural discharge, canal swelling. Audiogram: Mixed loss left ear (air 82, bone 38); normal right ear. Polytomes: Enlarged

aditus and antrum with dehiscence tegmen; probable fistula horizontal canal. Surgical Findings: Chronic infection with cholesteatoma extension into horizontal canal fistula; defect of tegmen over antrum approximately 8 mm; release of small amount purulent discharge and clear fluid with probing of tegmen defect. Surgical Treatment: Left radical mastoidectomy with labyrinthectomy; fascia covering of tegmen defect. Follow-up: Asymptomatic. No hearing in operated-on ear.

Case 6: A 32-year-old woman. History: Intermittent aural discharge, otalgia, dizziness for 15 years. Unilateral hearing loss. Physical: Perforation of left ear with cholesteatoma. Audiogram: Mixed hearing loss, left. Polytomes: Cholesteatoma, ossicular destruction, tegmen defect in aditus. Surgical Findings: Extensive cholesteatoma with tegmen defect of 6 mm over aditus covered with granulation tissue. Manipulation resulted in CSF leak. Treatment: Type III tympanomastoidectomy; closure of tegmen defect with Marlex Mesh® and temporalis fascia. Follow-up: Asymptomatic. Hearing unchanged. Revision 1976 with Plastipor® TORP and 30 dB hearing gain.

Case 7: A 27-year-old man. History: Bilateral aural drainage, hearing loss since childhood. Occasional dizziness, headaches. Physical: Central perforation left ear; attic perforation with cholesteatoma right ear. Audiogram: Mixed loss right ear; conductive loss left ear. Polytomes: Cholesteatoma, ossicular destruction right; possible tegmen defect left over aditus. Surgical Findings: Cholesteatoma right ear with ossicular damage. Treatment: Type III tympanomastoidectomy. Follow-up: Right ear clean, dry with hearing improvement. Left ear continues with intermittent discharge. Left ear surgery demonstrates 5 mm tegmen defect with granulation tissue. Manipulation of granulation tissue results in CSF leakage. Treated with Marlex Mesh® and fascia. Follow-up: Dry ear. Normal hearing.

Case 8: 1973. A 49-year-old woman. History: Bilateral ear discharge all her life. Hearing loss both ears. Intermittent dizziness. Headaches. Frequent antibiotics and ear drop solutions. Previous right radical mastoidectomy. Physical: Infected right radical cavity with polyps and granulation tissue; central perforation left ear. Audiogram: Bilateral mixed loss, worse in right. Polytomes: Tegmen defect right over posterior antrum. Surgical Findings: Tegmen defect of 8-10 mm with spinal fluid leak with manipulation. Treatment: Marlex Mesh® plus temporalis fascia; Type III reconstruction. Follow-up: Asymptomatic. Hearing increased. Wears hearing aid right.

Case 9: A 45-year-old man. History: Clear, watery discharge from right ear. History of previous surgery: 1. Simple mastoidectomy as child, 2. Type I tympanoplasty in 1970, 3. Type III tympanomastoidectomy in 1971 with T-tube drainage of 2 cm temporal lobe abscess. Physical: Clean mastoid bowl with watery discharge from roof of antrum. Surgical Treatment: Closure of 2 x 3 mm tegmen defect with Marlex Mesh® and temporalis fascia. Follow-up: One year later developed recurrent watery discharge. Repeat exploration of area showed thickened dura with CSF leak. Surgical closure of defect with Marlex Mesh® interposed between two layers of temporalis fascia. Asymptomatic since 1975. Mixed hearing loss right ear.

Case 10: A 61-year-old man. History: Intermittent antibiotics for fever over 10 years. Ear discharge for 10 years; hearing loss. Physical: Attic perforation with purulent discharge. Audiogram: Mixed loss with 35 dB conductive component. Polytomes: Tegmen perforation over antrum, ossicular erosion. Surgical Findings: Cholesteatoma, temporal lobe abscess with clear drainage with evacuation, tegmen defect 10 mm. Treatment: Tympanomastoidectomy; fascia with skin graft over tegmen defect. Follow-up: Asymptomatic. Hearing increased 15 dB.



**FIGURE 1:** Right AP view showing cholesteatoma (C) with tegmen perforation (10) exposing temporal lobe, erosion of horizontal semicircular canal (17), vestibule (23), and tympanic cavity (18).

**Case 11:** A 5-year-old boy. History: Purulent aural drainage "since birth". Multiple courses of antibiotics. "Simple Mastoidectomy" for chronic infection and cholesteatoma. One week after surgery child develops fever (106°), ataxia, becomes rapidly stuporous and comatose. Transferred to Community Hospital. Physical: Comatose, Cheyne-Stokes respirations, papilledema; profuse CSF otorrhea left ear through total perforation. X-ray: Ventriculography, angiography findings consistent with cerebellar abscess and ventricular shifting. Surgery: Suboccipital craniectomy. Follow-up: Rapid downhill course. Patient died after three days. Autopsy: Cerebellar abscess involving all of left cerebellum with brain edema and tonsillar coning. Bone erosion over lateral sinus and area of Trautmann's triangle with abscess stalk through posterior fossa dura to cerebellum.

## Discussion

CSF otorrhea may occur in association with chronic otitis media either by the erosive action on bone by the disease itself with penetrance into

some part of the subarachnoid space or as a result of previous surgery for chronic ear disease.<sup>14</sup> Anatomically, the tegmen forms the lateral part of the superior surface of the petrous part of the temporal bone and separates the epitympanum (attic), aditus and antrum from the temporal lobe of the cerebrum. There is an incidence of 5.4% of congenital dehiscence of the tegmen.<sup>5</sup> Infection can thus reach the middle and/or posterior fossa.

It is well known that antibiotics have significantly changed the morbidity and mortality of otitic complications.<sup>6,7</sup> In the pre-antibiotic era, CSF otorrhea had the potential for developing into meningitis with a mortality rate approaching 80%. Pennybacker has shown a decrease in the death rate of temporal lobe abscesses from 32% to 4% in the antibiotic era.<sup>8</sup> It has also been shown that since the introduction of antibiotics, most ear complications are associated with chronic ear diseases rather than with acute middle ear disease, which was the case in the pre-antibiotic era.<sup>9</sup> Chronic infection now usually spreads along pathways

opened by bony erosion with an acute exacerbation being the precipitating factor.<sup>10</sup>

Antibiotics have also changed the more classical signs and symptoms described in texts into less dramatic and more subtle manifestations. It is likely that intermittent CSF leakage and sepsis is temporarily abated with antibiotic intervention. Thus, antibiotics can delay early diagnosis of CSF otorrhea. These drugs can prevent the onset of meningitis or quickly clear it, but the infectious lesion may persist and the dural defect go unrepaired. More common symptoms of chronic ear disease in the antibiotic ear are: (1) aural discharge, (2) hearing loss, (3) intermittent dizziness, (4) intermittent otalgia, (5) headache, and, (6) intermittent fever.

The diagnosis of CSF otorrhea in association with chronic ear disease or after surgery for chronic ear disease is not difficult when suspected. Clear fluid in a chronically draining ear which has been cleaned under the microscope is almost diagnostic. Polytomography and/or computed tomography of the temporal bone will identify tegmen or labyrinthine erosion over 90% of the time<sup>12</sup> (*Fig. 1*). When otorrhea is suspected to be in association with a cerebral or cerebellar abscess, CT scanning with and without contrast media has proven to be extremely diagnostic and has replaced most other invasive radiologic diagnostic techniques. An abnormal sleep EEG may also be indicative of a temporal lobe abscess.

The treatment of CSF otorrhea in chronic infection depends on the patient's condition. The definitive surgical procedure is often dictated by conditions at the time of the surgery as well as the patient's condition. Mastoid surgery is preferred as the initial procedure.

Although one may be dealing with a frank CSF leak, often the leak or dural defect may have gone unobserved after previous surgery and is detected only when manipulating the granulation tissue and/or pocket of pus

in the tympanic tegmen defect. The handling of the tegmen defect in chronic ear disease with CSF otorrhea depends upon its location (*Table 2*). If the CSF leak is in a tegmen defect posterior to the aditus and is small (less than 0.5 cm), temporalis muscle fascia or homograft dura can be used and concomitant reconstructive surgery performed.

Larger defects require more supportive tissue such as Marlex (Mersilene) Mesh (*Fig. 2*) or autogenous cartilage plus fascia as the preferred means of defect closure. Additional strength and support is needed to prevent the possibility of later brain herniation through the tegmen defect. If the CSF leak is also associated with a frank abscess or collection of pus within the defect, a #8 French Bard irrigating catheter (T-tube) (*Fig. 3*) is inserted into the defect and surrounded by muscle and fascia. This T-tube is brought out of the wound postauricularly or through the ear canal and may be used for antibiotic irrigation with gradual withdrawal over a 3-10 day period.

It has been shown that abscess cavities shrink rapidly following evacuation and mastoid surgery with an associated cessation of spinal fluid leakage. All other tegmen defects above or anterior to the aditus are treated similarly. The correction of defects in the attic roof which interfere with the ossicular chain may require a later reconstructive middle ear surgical procedure.

Cerebellar abscess can lead to erosion of the bone over Trautmann's triangle and lead to profuse CSF otorrhea from the lateral cistern. Cerebellar abscess can attain a larger size than a cerebral or temporal lobe abscess with fewer signs and symptoms. It appears that the best approach to a cerebellar abscess is the mastoid approach through Trautmann's triangle or lateral sinus rather than a suboccipital approach. The reason is that cerebellar abscesses are usually located in the anterior superior part of the lobe and, in this region, the two

TABLE 2  
Suggested Guidelines for Treatment of Tegmen Defects in Chronic Ear Disease With CSF Otorrhea

Location Tegmen			
Defect	Size of Defect	Abscess	Surgical Treatment
Posterior to aditus	Less than 0.5 cm.	Yes	Drainage; muscle & fascia; Tympano-mastoidectomy (open)
		No	Temporalis fascia; homograft dura; middle ear reconstruction
	0.5 cm. or more	Yes	T-tube drainage; muscle & fascia tympano-mastoidectomy (open)
		No	Marlex Mesh; fascia; dura; middle ear reconstruction
Above aditus	Less than 0.5 cm.	Yes	Drainage; muscle & fascia; optional middle ear reconstruction
		No	Fascia or dura; middle ear reconstruction
	0.5 cm. or more	Yes	T-tube drainage; muscle & fascia reconstruction 2nd stage
		No	Marlex Mesh; fascia; middle ear reconstruction
Anterior to aditus	Less than 0.5 cm.	Yes	Drainage; fascia or dura; optional middle ear reconstruction
		No	Fascia or dura; middle ear reconstruction
	0.5 cm. or more	Yes	T-tube drainage; muscle & fascia. Reconstruct 2nd stage
		No	Marlex Mesh; fascia; middle ear reconstruction





FIGURE 2: Mersilene Mesh.



FIGURE 3: T-tube for abscess drainage.

layers of dura envelop the lateral sinus and it is difficult to obtain a plane of cleavage by the suboccipital route.

When disease destroys the bony structure in the sinodural angle as well as bone over the sinus plate, both the temporal and cerebellar lobes may herniate into the mastoid cavity with destruction of the dura over the hernia sac and a profuse CSF leak. Cerebellar abscesses without herniation are treated by the transmastoid approach with repair along those guidelines outlined in Table 2. Abscesses with herniation may require a combined neurosurgical/otologic approach.

#### Summary

Chronic ear disease with associated cholesteatoma has always been fraught with potential for disastrous complications. When associated with CSF otorrhea, this entity is a dangerous and potentially life-threatening disease. Chronic ear disease and CSF otorrhea occur on the basis of trauma, surgery, chronic ear disease and congenital anomalies. Complications include meningitis, pneumocephalus and hydrocephalus. Under most circumstances, chronic ear disease necessitates surgical intervention from above or

below the tegmen utilizing drainage procedures, supportive techniques, and/or oblitative measures with immediate or delayed ossicular reconstruction.<sup>13</sup>

Essentially, the two main surgical procedures are "from above", i.e., intracranial-extradural or "from below", i.e., transmastoid-middle ear. Material used to repair CSF leaks from above may include temporalis muscle fascia, fascia lata, mesh, and acrylic compound. Repairs from below may consist of the removal of herniated non-viable brain tissue, replacement superiorly of viable brain tissue, and deficit closure using similar material as well as muscle pedicles, fat grafts, etc. It is important to be careful to remove any squamous epithelium which may have grown over any exposed dura before closure. An explicit and exquisite understanding of the surgical intervention, be it preventive or therapeutic, is the "sine qua non" of the treatment.

#### REFERENCES

1. Cawthorne T: The surgery of the ear in the management of intracranial complications of chronic suppurative otitis media. *J Laryngol Otol*, 69:579-587, 1955.
2. Harpman JA: On the management of oto-rhinogenic intracranial infections. *J Laryngol Otol*, 69:180-214, 1955.
3. Lillie HI, Spar AA: Escape of cerebrospinal fluid into the wounds of operations on the temporal bone. *Arch Otolaryngol*, 46:779-788, 1943.
4. Blatt IM: Surgical repair for cerebrospinal otorrhea due to middle ear and mastoid disease. *Laryngoscope*, 73:446-460, 1963.
5. Ballance CA: Essays on the surgery of the temporal bone. London, 1919. Vol I, Plate XIII, Fig 1.
6. House HP: Otitis media: Comparative study of results obtained in therapy before and after introduction of sulfonamide compounds. *Arch Otolaryngol*, 43:371-378, 1946.
7. Ballantine HT Jr, White JC: Brain abscess: Influence of antibiotics on therapy and mortality. *N Engl J Med*, 248:14-19, 1953.
8. Pennybacker J, et al: Discussion on intracranial complications of otogenic origin. *Proc R Soc Lond*, 54:309-320, 1961.
9. Courville CB: Symposium: Intracranial complications of otitis media and mastoiditis in antibiotic era. *Laryngoscope*, 65:31-46, 1955.
10. Majir EH: Symptomatology and therapy of otogenic intracranial complications. *ORL Digest*, pp 11-15, July 1975.
11. Shambaugh G: Surgery of the ear. WB Saunders Co, Philadelphia, 1959.
12. Wright JW, Taylor CE, McKay D: Advances in tomography of the temporal bone. *Laryngoscope*, 76:1082-1096, 1966.
13. Hicks GW, et al: Cerebrospinal fluid otorrhea. *Laryngoscope*, Suppl 25, 90:11, Part 2, November 1980.

# Pulmonary Blastomycosis

## Case Report of a 69-Year-Old Man with Unusual Presentations

---

JEFFREY S.H. TSUNG, M.D.  
STEPHEN S. TSUNG  
Merrillville

---

**Keywords:** Joint pain, miliary pattern, synovial fluid, amphotericin.

**B**LASTOMYCOSIS, the human illness caused by the fungus *blastomyces dermatitidis*,<sup>1</sup> is uncommon but potentially serious. Pulmonary blastomycosis usually precedes involvement of other organs. Joint involvement has been infrequently reported and has only rarely been noted as a presenting manifestation of disseminated disease. We discuss a patient with pulmonary blastomycosis in whom severe joint pain was the initial complaint.

### Case Report

A 69-year-old white man was admitted for evaluation of knee pain. Three weeks before entering the hospital, he had noted the onset of pain, warmth, redness and swelling of both knees. The joint pain had gradually worsened to a point where he was unable to stand.

Correspondence: Jeffrey S.H. Tsung, M.D., P.O. Box 3354, Dept. of Pathology, King Faisal Specialist Hospital and Research Center, Riyadh 11211, Kingdom of Saudi Arabia.

At the time of presentation, he reported a two-week history of low grade fever, chills and anorexia, but he denied night sweats, cough, hemoptysis, or chest pain. On examination, the patient appeared to be in marked distress and had an oral temperature of 38.2 C. There was tenderness of the patella on both knees without clear evidence of fluid. Peripheral WBC count was 14,000/mm<sup>3</sup>; the hematocrit was 93%. The chemistry profile was normal except for a glucose level of 294 mg/dl. A chest roentgenogram showed bilateral diffuse miliary infiltrates (*Figure 1*).

The patient underwent a bronchoscopy with a transbronchial biopsy. Microscopic sections revealed multiple non-caseating granulomas (*Figure 2*). Methenamine silver stain showed fungal spores with the double refractile wall and broad-based budding yeast (*Figure 3*). Serum immunodiffusion was positive for blastomycosis antibodies. Treatment with amphotericin B resulted in complete resolution of his illness.

### Discussion

The spectrum of pulmonary blastomycosis ranges from a slowly progressive localized pneumonitis to an acute, pyogenic pneumonitis.<sup>1</sup> The radiographic pattern included air-space disease, nodular masses, interstitial disease and cavitation.<sup>2</sup> The miliary pattern presented by our patient is rare.<sup>3</sup> Recognition of this form is important since miliary blastomycosis is often fatal.<sup>4,5</sup> In a patient from an endemic area who has a diffuse miliary pattern on the chest x-ray film, blasto-

mycosis must be considered since prompt diagnosis and treatment may avert a frequent fatal outcome.<sup>6</sup>

Joint pain has been reported in 3-15% of patients who have blastomycosis.<sup>7-10</sup> The frequency of blastomycotic arthritis, however, is not known, since synovial fluid has rarely been examined. Only 14 cases of documented joint involvement by blastomyces dermatitidis could be found in the English literature since 1950.<sup>3, 11-18</sup> Although our patient did not have synovial fluid on fungal examination, we felt that his joint pain was related to blastomycosis because his symptoms completely resolved two weeks after amphotericin therapy.

Two processes contribute to the pathogenesis of joint involvement, i.e., direct extension from juxtaarticular osteomyelitis and hematogenous seeding. The arthritis is usually monoarticular, most commonly affecting the knee, ankle or elbow.<sup>19</sup> Our patient is the first one to have bilateral joint pain.

The diagnosis of blastomycotic arthritis requires synovial fluid analysis. The diagnostic yield is high (82%) when synovial fluid from a symptomatic joint is examined in the setting of blastomycosis.

### Summary

We have described a patient with blastomycosis exhibiting two unusual presentations: a miliary pattern in chest x-ray film, and bilateral joint pain. In a patient from an endemic area who has a diffuse miliary pattern on chest x-ray film or has joint pain, blastomycosis should be considered in the differential diagnosis.



FIGURE 1: Chest x-ray film shows a miliary pattern.

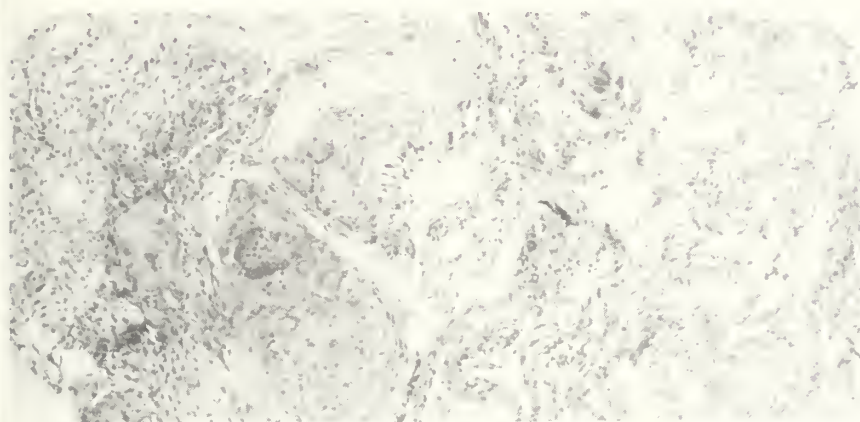


FIGURE 2: Microscopic sections reveal non-caseating granulomas. (Hematoxylin eosin stain x100).

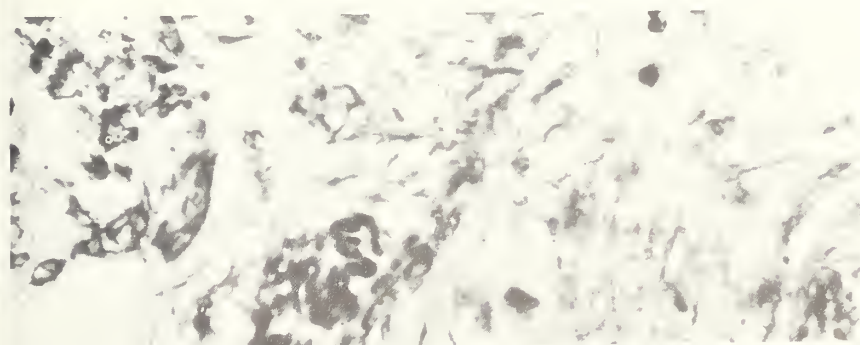


FIGURE 3: Methenamine silver stain shows the broad-based budding yeast.

## REFERENCES

1. Sarosi GA, Davies SF: Blastomycosis. *Am Rev Respir Dis*, 120:911-938, 1979.
2. Halvorsen RA, Duncan JD, Merten DF, et al: Pulmonary blastomycosis: Radiologic manifestations. *Radiology*, 150:1-5, 1984.
3. Stelling CB, Woodring JH, Rehm SR, et al: Miliary blastomycosis. *Radiology*, 150:7-13, 1984.
4. Rippon JW, Zvetina JR, Reyes C: Case report: Miliary blastomycosis with cerebral involvement. *Mycopathologia*, 60:121-125, 1977.
5. Campbell G, Brunson JG: Clinicopathological conference: Miliary disease of the lung. *J Miss State Med Assoc*, 14:196-201, 1973.
6. Shaw GB, Campbell GD, Busey JF: Miliary blastomycosis. *Am Rev Respir Dis*, 113:81-84, 1976.
7. Witorsch P, Utz JP: North American blastomycosis: A study of 40 patients. *Medicine (Baltimore)*, 47:169-200, 1968.
8. Cherniss EL, Waisbren BA: North American blastomycosis: A clinical study of 40 cases. *Ann Intern Med*, 44:105-123, 1955.
9. Cush R, Light RW, George RB: Clinical and roentgenographic manifestations of acute and chronic blastomycosis. *Chest*, 69:345-349, 1976.
10. Duttern MJ, Osterhout S: North American blastomycosis: A survey of 63 cases. *South Med J*, 62:295-301, 1969.
11. Sanders LL: Blastomycosis arthritis. *Arthritis Rheum*, 10:91-98, 1967.
12. Fountain FF: Acute blastomycotic arthritis. *Arch Intern Med*, 132:684-688, 1973.
13. Vanek J, Schwarz J, Hakin S: North American blastomycosis: A study of ten cases. *Am J Clin Pathol*, 54:384-400, 1970.
14. Marx FJ, Berenbaum AA: Ayatemic blastomycosis: Cause of an obscure infection in a nonendemic area. *N Engl J Med*, 251:56-60, 1954.
15. Liggett AS, Silberman Z: Blastomycosis of the knee joint. *J Bone Joint Surg*, 52A:1445-1449, 1970.
16. Maioriello RP, Mervin CF: North American blastomycosis presenting as an acute panniculitis and arthritis. *Arch Dermatol*, 102:92-96, 1970.
17. Claffin K, Milbauer J, Sullivan B: Ketoconazole and blastomycotic osteomyelitis (letter). *Ann Intern Med*, 98:260-261, 1983.
18. George AL, Hays JT, Crahm BS: Blastomycosis presenting as monarticular arthritis. *Arthritis Rheum*, 28:516-521, 1985.
19. Bayer AS, et al: Fungal arthritis IV blastomycotic arthritis. *Semin Arthritis Rheum*, 9:145-151, 1979.



## **FOR MEDICAL PROFESSIONAL LIABILITY COVERAGE, THE ISMA STRONGLY RECOMMENDS PHYSICIANS INSURANCE COMPANY OF INDIANA.**

Several companies are anxious to provide most Indiana physicians with medical professional liability insurance coverage. *Only one* has received the formal endorsement, support, and sponsorship of the Indiana State Medical Association. That company is PICI, Physicians Insurance Company of Indiana.

### **Why PICI?**

Because PICI is committed to providing Indiana physicians with the best possible coverage at the lowest possible rates throughout their medical careers. Indiana physicians dominate the company's board of directors and serve on budget, claims and underwriting committees. PICI is a publicly held stock company, and provides annual as well as periodic interim financial reports.

With PICI, you know what's happening to your premium dollars. You will receive information about claims experience and trends. You are guaranteed input on company activities, through your physician members of the company's board and its committees. You are part of the company.

Through PICI, you also receive competitively priced auto, homeowners, office protection and personal umbrella coverages, designed and offered with the same long term commitment.

Compare all that PICI offers with what you will obtain from other sources of medical professional liability and other essential insurance coverages. We think you'll agree that the ISMA has endorsed the best.

**The Accountable Company . . .**



**PHYSICIANS INSURANCE  
COMPANY OF INDIANA**

3901 West 86th Street  
Suite 350  
P.O. Box 689059  
Indianapolis, Indiana 46268  
(317) 872-3046 or toll free  
in Indiana (800) 732-1313

# Motrin<sup>®</sup> 800 TABLETS mg ibuprofen



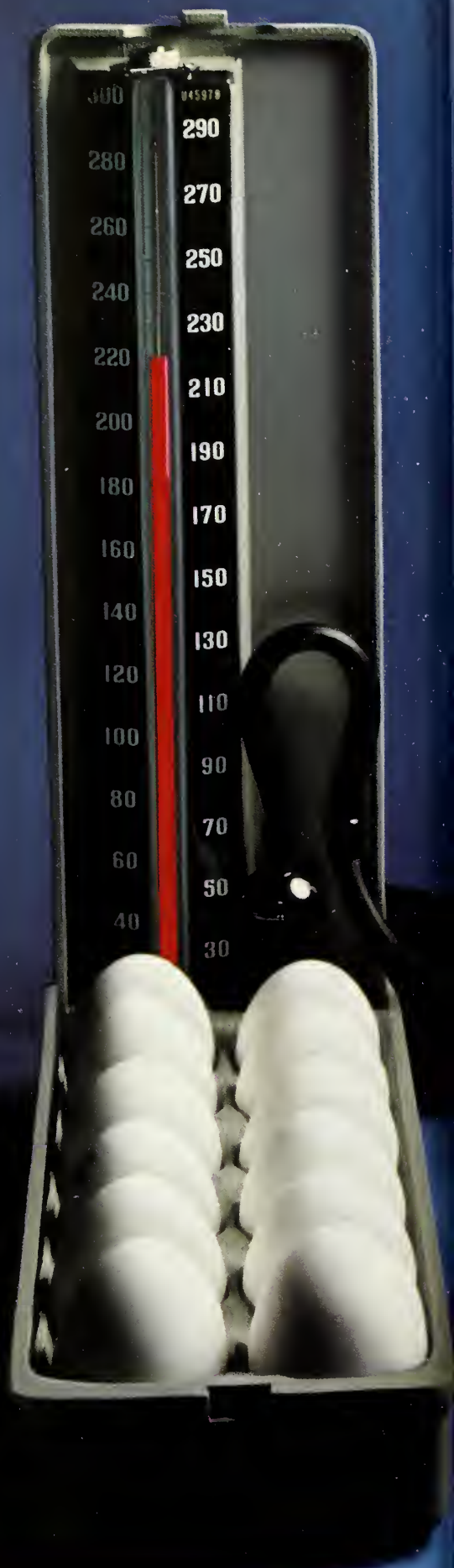
**Extra strength  
Convenience  
Economy**



A Century  
of Caring  
1886-1986



**“High  
blood pressure  
should be a  
red flag to  
screen for  
cholesterol...”<sup>1</sup>**





**If your patients have hypertension, they probably have high cholesterol too.**

The Framingham Heart Study<sup>2</sup> showed that over two thirds of the 35 and older population in that study with systolic blood pressures over 145 mmHg also had serum cholesterol levels of 225 mg/dL or more, and 46% had levels above 250 mg/dL.

While many clinical laboratories still report 250 mg/dL as "normal" cholesterol, the NIH Consensus Development Conference Statement on Cholesterol and Heart Disease<sup>3</sup> stated that any level above 220 mg/dL is associated with a significantly increased risk of coronary heart disease.

**You need to know, because high cholesterol parallels high blood pressure as a CHD risk factor.**

Epidemiological studies and large-scale prevention trials have indicated that as with blood pressure, serum cholesterol levels are proportionately related to CHD risk.

Specifically, "...for every 10 mmHg rise in pressure, there appears to be about a 30% rise in cardiovascular risk."<sup>4</sup> "...for every one percent you go up the American cholesterol scale, your subsequent rate of heart attack rises two to three percent."<sup>5</sup>

And although the specific impact on CHD has not been determined, we know that many of the principal agents used to lower blood pressure actually increase cholesterol.

**Wytensin<sup>®</sup> lowers blood pressure effectively without raising cholesterol.**

While Wytensin is not a cholesterol-lowering agent and is not indicated for the treatment of hyperlipidemia, in controlled clinical trials<sup>6</sup> it caused a slight, sustained decrease in total cholesterol without reducing the HDL fraction or altering serum triglycerides.

At the same time, Wytensin lowered blood pressure as effectively as hydrochlorothiazide, propranolol, clonidine or methyldopa. Drowsiness and/or dry mouth, the most frequent side effects noted with Wytensin, usually diminish or disappear over time. In fact, in double-blind studies to date, discontinuance of therapy for all side effects occurred in about 13% of patients.

**Wytensin<sup>®</sup>**  
(guanabenz acetate)

**Antihypertensive therapy that  
does not increase cholesterol**



See important information on following page.

**References:** 1. Glueck CJ: Remarks in the symposium, *Blood Pressure, Cholesterol and Coronary Heart Disease*, Washington, D.C., March 31, 1985. 2. The Framingham Study, *An epidemiological investigation of cardiovascular disease*, Section 28, U.S. Dept. of Health, Education, and Welfare. 3. National Institutes of Health Consensus Development Conference Statement, 1984: Vol 5, No 7, p 4. 4. Chobanian AV: The influence of hypertension and other hemodynamic factors in atherogenesis. *Progress in Cardiovascular Diseases*, XXVI (3): 177, Nov/Dec, 1983. 5. Castelli WP: Remarks in the symposium, *Blood Pressure, Cholesterol and Coronary Heart Disease*, Washington, D.C., March 31, 1985. 6. Data on file, Wyeth Laboratories.

# Wytenzin<sup>®</sup>

(guanabenz acetate)

Antihypertensive therapy  
that does not increase cholesterol

## Brief Summary

Before prescribing, consult the complete package circular.

**Indications and Usage:** Treatment of hypertension, alone or in combination with a thiazide diuretic.

**Contraindication:** Known sensitivity to the drug.

**Precautions:** 1. Sedation. Causes sedation or drowsiness in a large fraction of patients. When used with centrally active depressants, e.g., phenothiazines, barbiturates and benzodiazepines, consider potential for additive sedative effects. 2. Patients with vascular insufficiency. Like other antihypertensives use with caution in severe coronary insufficiency, recent myocardial infarction, cerebrovascular disease, or severe hepatic or renal failure. 3. Rebound. Sudden cessation of therapy with central alpha agonists like Wytenzin may rarely result in "overshoot" hypertension and more commonly produces increase in serum catecholamines and subjective symptomatology.

**INFORMATION FOR PATIENTS:** Advise patients on Wytenzin to exercise caution when operating dangerous machinery or motor vehicles until it is determined they do not become drowsy or dizzy. Warn patients that tolerance for alcohol and other CNS depressants may be diminished. Advise patients not to discontinue therapy abruptly.

**LAB TESTS:** In clinical trials, no clinically significant lab test abnormalities were identified during acute or chronic therapy. Tests included CBC, urinalysis, electrolytes, SGOT, bilirubin, alkaline phosphatase, uric acid, BUN, creatinine, glucose, calcium, phosphorus, total protein, and Coombs' test. During long term use there was small decrease in serum cholesterol and total triglycerides without change in high density lipoprotein fraction. In rare instances occasional nonprogressive increase in liver enzymes was observed, but no clinical evidence of hepatic disease.

**DRUG INTERACTIONS:** Wytenzin was not demonstrated to cause drug interactions when given with other drugs, e.g., digitalis, diuretics, analgesics, anxiolytics, and antiinflammatory or antineoplastic agents, in clinical trials. However, potential for increased sedation when given concomitantly with CNS depressants should be noted.

**DRUG-LAB TEST INTERACTIONS:** No lab test abnormalities were identified with Wytenzin use.

**CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY:** No evidence of carcinogenic potential emerged in rats during a two-year oral study with Wytenzin at up to 9.5 mg/kg/day, i.e., about 10 times maximum recommended human dose. In the Salmonella microsome mutagenicity (Ames) test system, Wytenzin at 200-500 mcg/plate or at 50-500 mcg/ml in suspension gave dose-related increases in number of mutants in one (TA 1538) of five *Salmonella typhimurium* strains with or without inclusion of rat liver microsomes. No mutagenic activity was seen at doses up to those which inhibit growth in the eukaryotic microorganism, *Schizosaccharomyces pombe*, or in Chinese hamster ovary cells at doses up to those lethal to the cells in culture. In another eukaryotic system, *Saccharomyces cerevisiae*, Wytenzin produced no activity in an assay measuring induction of repairable DNA damage. Reproductive studies showed a decreased pregnancy rate in rats given high oral doses (9.6 mg/kg), suggesting impairment of fertility. Fertility of treated males (9.6 mg/kg) may also have been affected, as suggested by decreased pregnancy rate of mates, even though females received drug only during last third of pregnancy.

**PREGNANCY:** Pregnancy Category C. WYTENSIN<sup>®</sup> MAY HAVE ADVERSE EFFECTS ON FETUS WHEN ADMINISTERED TO PREGNANT WOMEN. A teratology study in mice indicated possible increase in skeletal abnormalities when Wytenzin is given orally at doses 4 to 6 times maximum recommended human dose of 1.0 mg/kg. These abnormalities, principally costal and vertebral, were not noted in similar studies in rats and rabbits. However, increased fetal loss has been observed after oral Wytenzin given to pregnant rats (14 mg/kg) and rabbits (20 mg/kg). Reproductive studies in rats have shown slightly decreased live birth indices, decreased fetal survival rate, and decreased pup body weight at oral doses of 6.4 and 9.6 mg/kg. There are no adequate, well controlled studies in pregnant women. Wytenzin should be used during pregnancy only if potential benefit justifies potential risk to fetus.

**NURSING MOTHERS:** Because no information is available on Wytenzin excretion in human milk, it should not be given to nursing mothers.

**PEDIATRIC USE:** Safety and effectiveness in children less than 12 years of age have not been demonstrated; use in this age group cannot be recommended.

**Adverse Reactions:** Incidence of adverse effects was ascertained from controlled clinical studies in U.S. and is based on data from 859 patients on Wytenzin for up to 3 years. There is some evidence that side effects are dose related. Following table shows incidence of adverse effects in at least 5% of patients in study comparing Wytenzin to placebo, at starting dose of 8 mg b.i.d.

Adverse Effect	Placebo (%) n = 102	Wytenzin (%) n = 109
Dry mouth	~	28
Drowsiness or sedation	12	39
Dizziness	~	17
Weakness	~	10
Headache	6	5

In other controlled clinical trials at starting dose of 16 mg/day in 476 patients, incidence of dry mouth was slightly higher (38%) and dizziness was slightly lower (12%), but incidence of most frequent adverse effects was similar to placebo-controlled trial. Although these side effects were not serious, they led to discontinuation of treatment about 15% of the time. In more recent studies using an initial dose of 8 mg/day in 274 patients, incidence of drowsiness or sedation was lower, about 20%. Other adverse effects reported during clinical trials but not clearly distinguishable from placebo effects and occurring with frequency of 3% or less: Cardiovascular—chest pain, edema, arrhythmias, palpitations. Gastrointestinal—nausea, epigastric pain, diarrhea, vomiting, constipation, abdominal discomfort. Central nervous system—anxiety, ataxia, depression, sleep disturbances. ENT disorders—nasal congestion. Eye disorders—blurring of vision. Musculoskeletal—aches in extremities, muscle aches. Respiratory—dyspnea. Dermatologic—rash, pruritus. Urogenital—urinary frequency, disturbances of sexual function. Other—gynecomastia, taste disorders.

**Drug Abuse and Dependence:** No dependence or abuse has been reported.

**Overdosage:** Accidental ingestion caused by potentiation, somnolence, lethargy, irritability, miosis, and bradycardia in two children aged one and three years. Gastric lavage and pressor substances, fluids, and oral activated charcoal resulted in complete and uneventful recovery within 12 hours in both. Since experience with accidental overdosage is limited, suggested treatment is mainly supportive while drug is being eliminated and until patient is no longer symptomatic. Vital signs and fluid balance should be carefully monitored. Adequate airway should be maintained and, if indicated, assisted respiration instituted. No data are available on Wytenzin dialyzability.

**Dosage and Administration:** Individualize dosage. A starting dose of 4 mg b.i.d. is recommended, whether used alone or with a thiazide diuretic. Dosage may be increased in increments of 4 to 8 mg/day every one to two weeks, depending on response. Maximum dose studied has been 32 mg b.i.d., but doses this high are rarely needed.

**How Supplied:** (guanabenz acetate) Tablets, 4 mg, bottles of 100 and 500; 8 mg and 16 mg, bottles of 100. Revised 2/14/85

Wyeth Laboratories  
Philadelphia, Pa. 19101

Ad  
CAUTION

## TWELVE IMPECCABLE EXCUSES FOR NOT GIVING BLOOD.

1. I think I have lumbago.
2. I'm type Z negative.
3. I'm on the grapefruit diet.
4. I gave six months ago.
5. I just got back from Monaco.
6. The lines are thirteen blocks long.
7. My mother won't let me.
8. I didn't sign up.
9. I'm going out of town.
10. Asthma runs in my family.
11. I forgot to eat this morning.
12. I'm allergic to flowering magnolia.



Each one's a doozy,  
but we're hoping you  
won't use any of them.  
Give blood through the  
American Red Cross.  
Please, don't chicken out.

**EXCUSES DON'T SAVE LIVES.  
BLOOD DOES.**

American  
Red Cross





# It's still not getting any easier to practice medicine.

Third party payors keep changing the rules. The federal government keeps changing the rules. The Gramm-Rudman Act will change more rules and make new ones.

Don't you wish there was some other way to handle the details of your medical accounts receivable?

There is. And Medical Accounts Group, Inc. has it. Its name is MACS, and we think MACS is simply the best medical office software there is.

## MACS In Our Office

- Complete billing services provided for you to your specifications
- Data entry from magnetic hospital tapes or facesheets
- Total interface with patients on billing questions
- Electronic submission to Blue Shield, Medicare and Medicaid

## MACS In Your Office

- Complete turnkey systems available for your purchase
- Depreciation and ITC benefit you
- Installation, training and local support provided
- Electronic submission software also available

Whether you use MACS in our office or yours, a wide range of office support services is available right here in Indiana. Medical Accounts Group, Inc. has over 80 years of combined experience in all phases of medical accounts receivable and office management, and we can help. Call us.



## MEDICAL ACCOUNTS GROUP, INC.

85 North Meridian • Indianapolis, Indiana 46202 • (317) 923-3046 • 1-800-468-1018 (in Indiana)  
Affiliates: Cape Girardeau, Missouri; St. Louis, Missouri

**Serving Indiana's Growing Medical Community**



# Abbott Offers AIDS/HTLV-III Videotapes

IN OCTOBER 1985, the Diagnostics Division of Abbott Laboratories sponsored a three-day educational forum in connection with its technical exhibit at the 38th annual meeting of the American Association of Blood Banks. This forum featured guest experts addressing a variety of important topics relating to AIDS and HTLV-III testing.

As a service to the medical community, Abbott Diagnostics is offering videotapes of these educational sessions for viewing. Each of the following programs is available on individual VHS tapes and can be obtained through your Abbott representative.

## General Update on AIDS

**Steven Kleinman, M.D.**

*Associate Medical Director*

American Red Cross

Los Angeles, CA

*Playing Time: 1:15:46* **Order #97-8653A**

*A comprehensive general overview of AIDS and HTLV-III related diseases.*

## The Clinical Spectrum of HTLV-III Diseases

**Robert Redfield, M.D.**

*Walter Reed Army Medical Center*

Washington, DC

*Playing Time: 36:00* **Order #97-8653B**

*A discussion of the patient progression in HTLV-III related diseases ranging from asymptomatic through AIDS Related Complex (ARC) to AIDS.*

## AIDS Anxiety

**A. Brad Truax, M.D.,** *Clinical Faculty*

*UCSD Medical School*

*Co-Director*

*American Cancer Society*

*AIDS Education*

*San Diego, CA*

*Playing Time: 44:14* **Order #97-8653C**

*The psychosocial management of patients ranging from "Worried Well" to those with AIDS in low risk and high risk populations.*

## AIDS Therapy: Directions for the Future

**Donald I. Abrams, M.D.,** *Assistant Director*

## AIDS Activities

*San Francisco General Hospital*

*San Francisco, CA*

*Playing Time: 1:09:30* **Order #97-8653D**

*A comprehensive clinical picture of AIDS and a review of therapeutic modalities.*

## AIDS and Hemophilia

**Shelby L. Dietrich, M.D.,** *Director*

*Hemophilia Center*

*Orthopedic Hospital*

*Los Angeles, CA*

*Playing Time: 49:09* **Order #97-8653E**

*A review of AIDS in the hemophilia population, and its impact on household members.*

## AIDS/HTLV-III in the Public Health Environment

**George F. Grady, M.D.,** *Director*

*Center for Laboratories and Communicable*

*Disease Control*

*Boston, MA*

*Playing Time: 55:56* **Order #97-8653F**

*An in-depth review of public health implications in the prevention and management of AIDS and HTLV-III related diseases.*

## Source Plasma Donors and Industry Response to AIDS Risks

**Robert W. Reilly,** *President*

*American Blood Resources Association*

*Annapolis, MD*

*Playing Time: 42:06* **Order #97-8653G**

*A review of the implications of AIDS and HTLV-III on the commercial plasma sector.*

## Donor Notification

**Peter A. Tomasulo, M.D.,** *President*

*South Florida Blood Service*

*Miami, FL*

*Playing Time: 59:46* **Order #97-8653H**

*The approach used by a major regional blood center in managing the HTLV-III antibody positive donor situation.*

# ISMA-Gram

## Re: Group Term Life



AMERICAN PHYSICIANS LIFE

**ISMA-Gram**

Dear Indiana physician,

The new ISMA endorsed Group Term Life plan is better than ever STOP

Coverage maximums have been increased up to \$500,000 for ISMA members and employees of corporate plans. Members' spouses are now eligible for up to \$200,000 and dependent children, \$5,000 STOP

Costs have been dramatically cut as much as 38% at some age brackets STOP

Plus, an additional 10% premium experience credit is applied, guaranteed until November 1, 1986 STOP

It's easy to apply and underwriting is simplified (physicals are seldom required) STOP

Existing participants automatically enjoy the greatly reduced premiums and may apply for higher amounts of protection STOP

Take advantage of this opportunity to secure maximum protection at a minimum cost GO

**Call Today**  
1-800-742-1275



Underwritten By:

**AMERICAN PHYSICIANS LIFE**

Bates Drive  
P.O. Box 281  
Pickerington, Ohio 43147



# AUXILIARY REPORT

Alfrieda Mackel (Mrs. Frederick)  
ISMA Auxiliary President 1986-87

The ISMA Auxiliary has just capped a successful year under Muriel Osborne's leadership with our annual House of Delegates meeting at the Radisson Hotel in Indianapolis. Auxiliaries came from counties around the state to pay tribute to Muriel, to listen to county reports, to gain new insight and enthusiasm, and to listen to our new president, Alfrieda Mackel, as she outlined plans for her year in office.

We were honored to have as our guest AMA Auxiliary President-Elect Pat Durham, who reminded us that another AMA Auxiliary year is drawing to a close, and, as we were gathering in Indianapolis, auxiliaries from around the country are preparing to meet at the Drake Hotel in Chicago for the annual convention of the AMA Auxiliary June 15-18.

Highlights of this year's convention will include the opening meeting of the 63rd Annual Session on Sunday, June 15, when the state presidents will be recognized, followed by a gala reception honoring National President Mary Kay McPhee and President-Elect Pat Durham. Muriel Osborne, the immediate past president, will give the annual report for our state and will serve as chairman of the delegation, which will include Alfrieda Mackel, Anne Throop, Lura Stone, Jackie Kalsbeck, Hulda Classen, Suzanne Miller, Sylvia Scheeringa and Lourdes Gomez, as well as alternates Jane Siebenmorgen, Charlotte Bennett, Vivian Priddy and Anne Schuster.

The official agenda for the three-day meeting is action-packed with state reports, reference committee meetings, AMA-ERF and Membership Awards, state caucuses, elections and special speakers, including the closing address by Harrison L. Rogers Jr., M.D., president, AMA, on Wednesday, June 18.

Social events round out each day, giving auxiliaries an opportunity to meet and exchange ideas.

This meeting also serves as a reminder that the AMA Auxiliary pursues its goals through a *federated* structure of national, state and county organizations, each with its own range of activities. It serves as a network for activities at all levels, providing services which include program coordination, education and production of publications, all made possible through the annual dues paid by each auxiliary.

Our National representatives will travel upon request to county and area meetings, and plans are presently being made for participation by an increased number of county presidents-elect in the valuable training seminars for county auxiliary leaders—the "Confluence"! There are two Confluence

sessions planned during the 1986-1987 year; Leadership Confluence I will be Sept. 28-30, 1986, and Confluence II will be Feb. 1-3, 1987, both at The Drake Hotel in Chicago.

A total of 14 county presidents-elect will be invited to attend—seven at each session, and one only has to listen to former participants to know that it is an experience not to be missed! It is exciting to begin a new year. We may reflect on past successes and failures, but we will not dwell on them. This is the time to plan for the future, take advantage of the opportunities offered by this extraordinary organization called the "Medical Auxiliary" and to become "Partners in Health" with our physician spouses—the theme chosen by Alfrieda Mackel for her year as president.—Anne Throop, ISMA-A President-Elect

## Showing Older Hoosiers That We Care

"Healthy, Happy and Wise" is a six-part videotape series for older Hoosiers that was developed last year by the ISMA. It stars 12 very special older Hoosiers, physicians and other health professionals who discuss stress, exercise, nutrition, alcoholism, drug use and mis-use, support systems, high-tech medicine and adult abuse.

Please help make these programs available to all senior citizens in Indiana.

Medical societies in 15 target areas will be asked to donate \$67.50, the cost of one set of tapes. The tapes will be placed with appropriate agencies and made available for programming in and around the target areas.

Additional target sites will be considered if funding is available from an appropriate local agency. The current target areas are Indianapolis, New Albany, Vincennes, Kokomo, Bloomington, Columbus, Terre Haute, Muncie, Richmond, Danville, Evansville, Lafayette, Fort Wayne, Merrillville and South Bend.

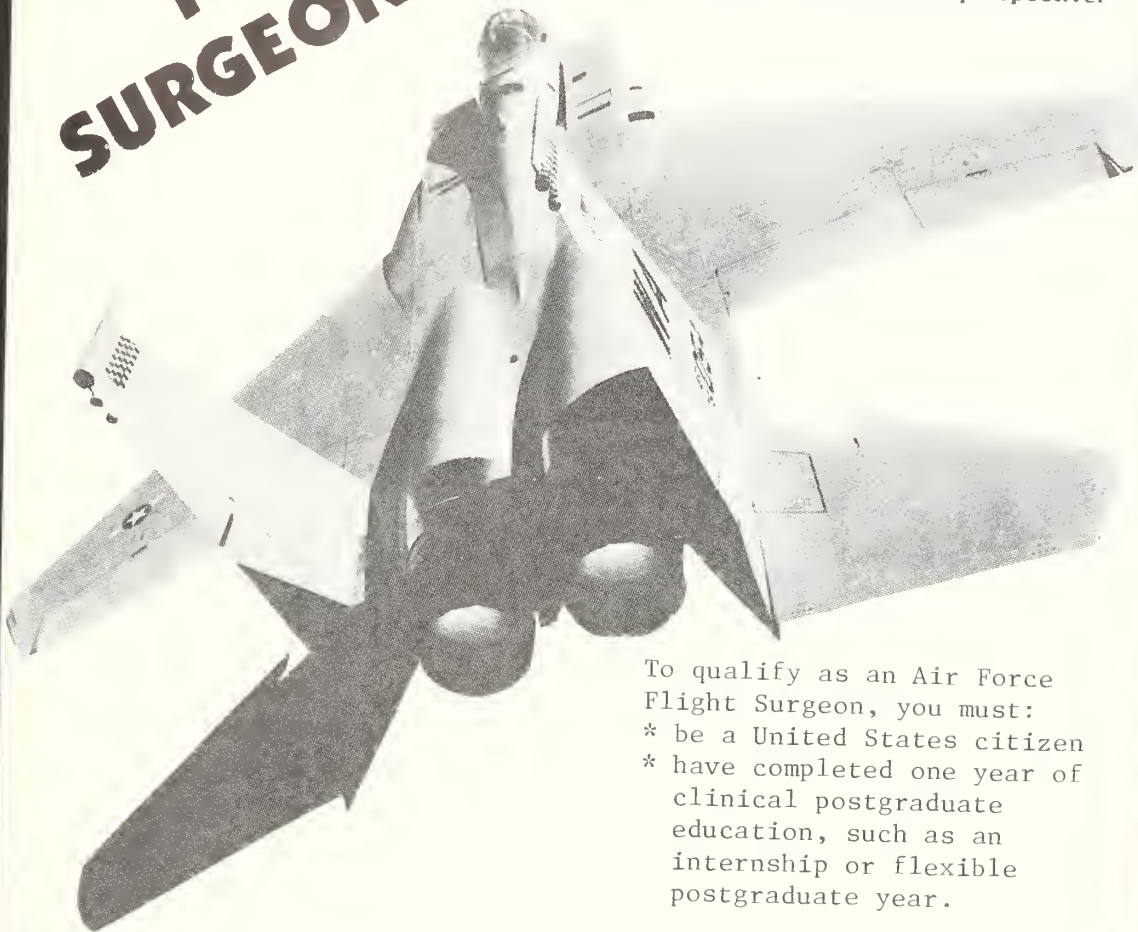
Please encourage your medical society to say yes by approving this expenditure for funds.



# THE AIR FORCE FLIGHT SURGEON

As an Air Force Flight Surgeon you will have a truly general practice in your office. In the air you'll fly with and observe air crew members — adding a new perspective to your medical career.

Without the headaches of office overhead and paperwork, with 30 days of vacation with pay each year, with time for your family, with medical and dental care, low cost life insurance, and a generous non-contributory retirement program. Maybe it's about time to give your life a new perspective.



To qualify as an Air Force Flight Surgeon, you must:

- \* be a United States citizen
- \* have completed one year of clinical postgraduate education, such as an internship or flexible postgraduate year.

APPLICATIONS ARE BEING ACCEPTED NOW

Contact: Captain Scott Simpson  
47 S. Pennsylvania, Suite 2  
Indianapolis, IN 46204  
(317) 269-6164/6354  
Outside area call collect

**AIR**  
**FORCE**  
A great way of life.

# BOOK REVIEWS

Dell Publishing announces *The Gradual Vegetarian*. The book is written by Lisa Tracy who, as a consequence of reading scientific literature supporting the good health effects of increasing intake of fresh fruits, vegetables and grains and reducing the intake of meat, followed this advice and found that it required a change in shopping and cooking. "Gradual" got into the title because Tracy found that it is best to do the changeover in stages, three to be exact. She is a writer and editor for *The Philadelphia Inquirer*. Paperback, 384 pages, \$5.95. Also in hardback.

American Health Consultants has published *Ensuring Quality in an Era of Cost Containment*, by Stanley A. Skillicorn, M.D., a leading authority on health care quality. It contains more than 100 pages of tested techniques and strategies for developing effective quality assurance programs that will allow health care providers to refocus on the broader aspect of patient care. The author's introduction says: "There is a need to free busy professionals from the burden of being so heavily involved in low yield rituals." He delivers easy-to-implement remedies to help combat the unnecessary paperwork and frustrating bottlenecks that hamper many quality programs. \$49.95.

## AIDS in the Mind of America

By Dennis Altman. Copyright 1986. Doubleday & Co., Inc., New York, N.Y. 228 pages, hardcover, \$16.95.

*AIDS in the Mind of America* is not the definitive philosophic analysis of acquired immune deficiency syndrome you have awaited. It explores the "social, political and psychological impact of a new epidemic" from the viewpoint of a political scientist who happens to be gay. His book is most successful when it describes the emotional plight of male homosexuals who find unexpected and terrible hazards inherent in their life style. The author's analysis loses its objectivity by that very fact. As he explains, "Gays too are ambivalent about AIDS, claiming that it should not be seen as a gay disease while tending to talk about it as if that's all it is."

Mr. Altman recounts well the history of the disease in its geographic, clinical, epidemiologic, moral and political expressions. He describes vividly the martialing of forces to combat the disease. He demonstrates the important leadership shown by private groups, especially the gay organizations, in initiating programs and in prodding governmental facilities and agencies into action. Mr. Altman wonders why more wasn't done more quickly by all. But as he reaches out in accusation of those (the Reagan administration in particular) he feels were remiss, he outlines efforts of organization and growth to be envied by those interested in other socio-medical problems. He says that "the funds for AIDS research allocated for the public health service . . . increased from \$5.5 million in fiscal 1982 to a peak of \$96 million in 1985." Then he supports the contention of Congressman Barbara Bower that "... compared with previous medical emergencies . . . the administration's response was extraordinarily half-hearted."

In contrast to this eagerness for governmental involvement in the research and therapy for AIDS is the author's attitude toward government-

tal action directed against the spread of the disease. He describes the bathhouse closings debates in detail and decides "I would come down against closing the baths."

Physicians will find this book weakest in its medical discussions. Doctors need to know what manner of malady AIDS is. Now that a particular virus, HTLV III, is known to be the pathogen, its spread through contaminated needles to drug users and in contaminated blood products to recipients is understandable. Projects have been launched to prevent such spread. The predilection of AIDS for homosexual males with multiple partners and much anal activity is unusual but allows credible hypotheses. Those same hypotheses extended allow explanation of sexual transmission from male to female. And babies growing in the wombs of infected mothers would be easy prey. The coexistence of Kaposi sarcoma is interesting and the concomitant opportunistic infections leading to death fit the immune deficiency crucial to the disease, but why the heterosexual spread in Africa? Does that mean the virus needs not enter the blood stream to prevail? Mr. Altman should not be surprised with society's concern. His discussion of public health problems should be more objective, I believe. If by some bit of luck AIDS infectivity has been confined to a small segment of the U.S. population, it behooves us to protect the others with time tested educational and public health measures until better methods of diagnosis, prevention and treatment are devised.

The author accepts the inevitable need for lucid public education though he mentions the "fears that it must . . . feed homophobia," but he balks at any suggestion of quarantine. He sees, but doesn't foster, a great change already occurring in the sexual mores of American gay men. He doubts, however, that most of them will be able to accept monogamy. It is probable that most Indiana physicians are more sensitive to the plights of AIDS victims—including Ryan White—than they are to the life style desires of those proved infective to others. Ex-





isting state laws reflect society's usual response to contagion, but defining the infectivity of those carrying the antibody to HTLV III is as yet impossible, and legislating acceptable sex practices has proved ineffectual. Let us hope we can look back on this problem some day with pride in the success of our American system of freedom and individual rights.

*AIDS in the Mind of America* is highly readable, well indexed, with a good bibliography. The book contains a wealth of information. Its main message is a request for community awareness that gay men did not create the disease AIDS and that they deserve consideration as they grope with the ravages of this fatal disease.

It has been said that issues which excite spirited citizen interest, unusual concern, and loud debates always turn out to be moral issues. AIDS has certainly done that.—Thomas J. Conway, M.D., Terre Haute

## An Ounce of Prevention

*AICR Cookbook Series, Winter Volume, published by the American Institute for Cancer Research. Copyright 1985 by the AICR, Washington, D.C. \$6 per volume.*

*An Ounce of Prevention*, published by the American Institute for Cancer Research, is in reality a cookbook providing keys to decreasing the risk of cancer by dietary means. The volume here reviewed, titled the Winter Volume, is the first in a series of four named for the seasons of the year. Primarily, the book presents recipes, not to be regarded as sacrifices to preventive medicine, but in reality a celebration of really good eating.

The recipes conform to these changes in the usual American diet:

1. Reduce the intake of dietary fat, both saturated and unsaturated.
2. Increase the consumption of fruits, vegetables, and whole-grain cereals.
3. Reduce consumption of salt-cured, smoked, and charcoal broiled foods (presumably, the more the better).
4. Reduce the consumption of alcohol.

Admittedly no expert cook, your

reviewer prepared recipes from different sections of the attractive little manual. The recipes tried were simple to prepare, interesting, and in fact, downright delicious. Such important matters as protein complementarity are observed. Thus, the Mexican red bean stew combines the amino acids of red kidney beans with those of low-fat cheese, resulting in a meat-free dish that is tasty yet the nutritional equivalent of ground round.

The diets are conveniently coded with special symbols on each recipe to provide pertinent information at a glance. The categories of foods: appetizers and snacks, soups, salads, grain products, entrees of seafood, poultry, meat, vegetables, and of course, desserts.

Far from being an exercise in therapeutic diets, the book presents an experience in joyous, healthful eating. Providentially, the recipes are just as appropriate for combatting atherosclerosis as for reducing the risk of cancer.

Following each recipe is a capsule presentation of the yield, preparation time, cooking time, fat content, calorie content, contributor, and useful tips. In the jargon of today, on a scale of one to ten, this book rates a ten.

This copy and the forthcoming copies on the other seasons can be ordered from the American Institute for Cancer Research, P.O. Box 76216, Washington, D.C. 20013.—W. D. Snively, Jr., M.D., Professor Emeritus of Life Sciences, University of Evansville

## ISMA Constitutional Amendments

As required by Article X (Amendments) of the ISMA Constitution, INDIANA MEDICINE announces the following proposed constitutional amendments that were passed by the 1985 House of Delegates. The proposed changes were specified in Resolution 85-24, "Updating of the ISMA Constitution To Be in Compliance with Recent Changes to the ISMA Bylaws." These proposed changes will be voted on by the 1986 House of Delegates. The boldface type indicates the proposed new language, while that portion in parentheses indicates the existing language to be eliminated.

"Resolved, That the ISMA Constitution be amended as follows:

"Article I—Title and Definition: The name of this organization is the Indiana State Medical Association. It is the federacy of Indiana (county) **component** medical societies.

"Article IV—Members: The Indiana State Medical Association is composed of individual members of (county) **component** medical societies and others as shall be provided in the Bylaws.

"Article VII—Trustees: The Board of Trustees is composed of trustees and alternate trustees elected by the component district medical societies, and (the president) **the Resident Medical Society**, the president, (the) president-elect, treasurer, immediate past president, (the) assistant treasurer, (with power to vote only in the absence of the treasurer, and the) speaker, (and) vice speaker (without power to vote) and the executive director (without power to vote. The alternate trustees have power to vote only in the absence of the trustee.) **The members of the Board of Trustees shall have the power to vote as prescribed in the Bylaws.**

"The Board of Trustees shall have charge of the property and financial affairs of the Association and shall perform such duties as are prescribed by the law governing directors of corporations or as may be prescribed in the Bylaws."





If you recognize Tad's father, you'll recognize the name of one of the largest life insurance companies in America.

Lincoln. It's a name you'll remember.

**B**enefits available to members of the Indiana State Medical Association and their employees through expanded ISMA group sponsored Lincoln National Life health insurance coverage:

#### **MEDICAL PLAN 1**

- 365 Days of Inpatient Hospital Care
- 100% payment semi-private or hospital ward room including the cost of blood
- 365 Days In-Hospital Medical Care
- Reasonable and Customary allowances for surgery, maternity, general anesthesia, medical visits, and radiation therapy
- \$500 Supplemental Accident
- Unlimited Major Medical Benefits

#### **MEDICAL PLAN 2**

- Comprehensive Major Medical expense protection—\$500 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 3**

- Comprehensive Major Medical expense protection—\$250 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 4**

- Low cost comprehensive Major Medical expense protection—\$2,000 Calendar Year Deductible
- Unlimited Maximum Benefits

#### **MEDICAL PLAN 5**

- Low cost plan that provides the same benefits as Medical Plan 3
- This plan includes several cost-containment features

The Lincoln National Life Insurance Company is most pleased to be underwriting the Group Medical and Dental Programs for the Indiana State Medical Association. Your benefit programs have been designed to provide the highest quality coverage and service at the lowest possible cost. A special claim paying unit has been established in our Indianapolis Group Benefits and Service Office to handle only the ISMA program. Should you have questions or problems, you may speak directly to your claim processor at 317-846-6211/800-692-6014. We look forward to serving your association and encourage your review of the programs and services being provided.

**F**or more information call or write:

James D. Townsend or Earl W. Williams  
Professional Account Representatives  
8900 Keystone Crossing, Suite 500  
Indianapolis, Indiana 46240  
(317) 846-7502 or (317) 844-3119  
1-800-428-7105 Toll Free Outside Indiana

Tom Martens  
Director, Health Insurance Administration  
Indiana State Medical Association  
3935 North Meridian Street  
Indianapolis, Indiana 46208  
(317) 926-4424  
1-800-382-1721

#### **NEW DENTAL PLAN**

- Reasonable and Customary allowances for necessary care and treatment for dental health
- \$1,500 Maximum Dental Benefit per person in a Calendar Year

#### **MEDICAL REIMBURSEMENT PLAN**

- Tax Deductible to the professional corporation
- Permissible to cover physicians and key employees only.



20  
YEARS

Thank you for your loyal support

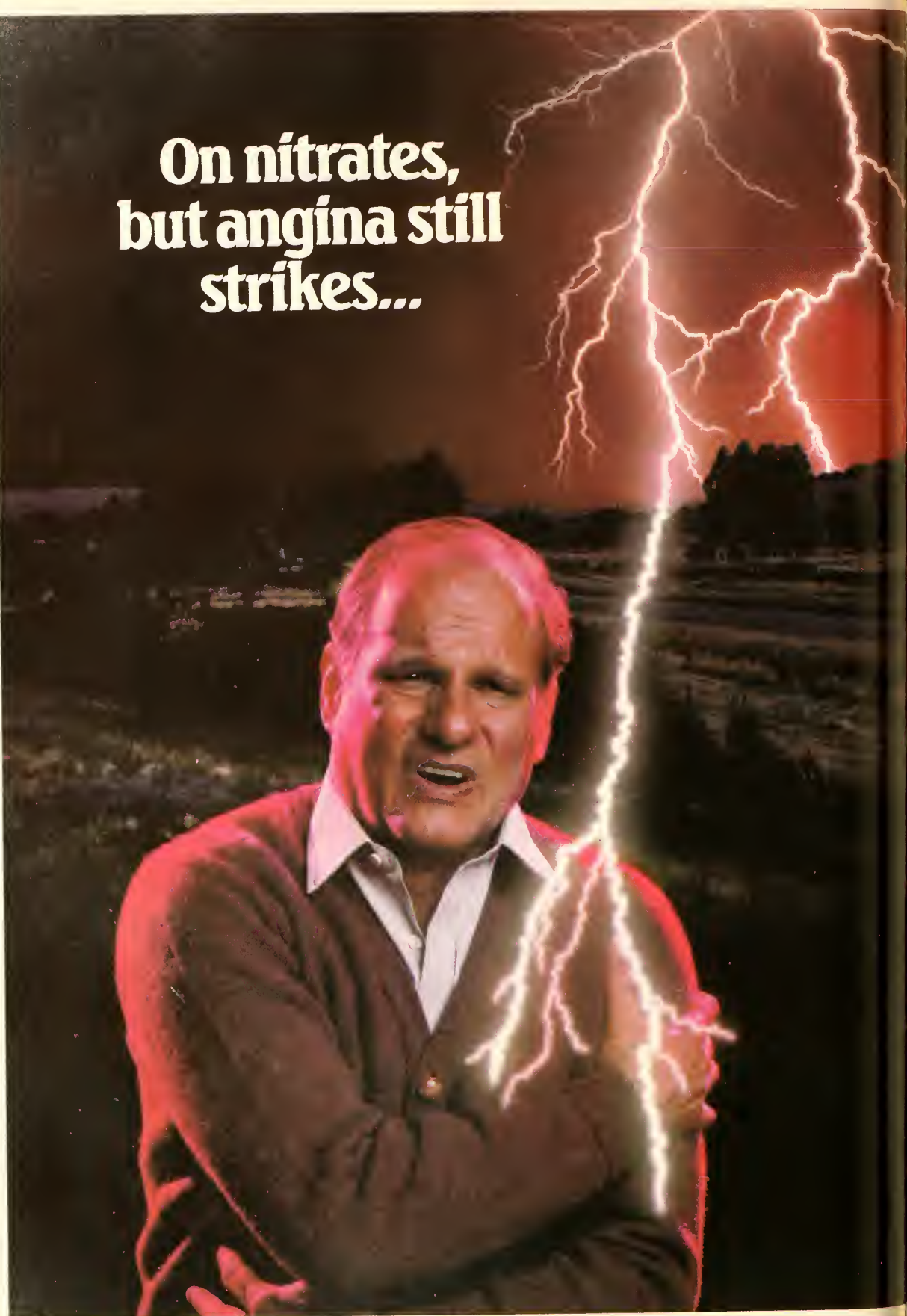
**DYAZIDE<sup>®</sup>**

25 mg Hydrochlorothiazide/50 mg Triamterene/SKF

SK&F CO.



**On nitrates,  
but angina still  
strikes...**





# After a nitrate, add ISOPTIN<sup>®</sup> (verapamil HCl/Knoll)

To protect your patients, as well as their quality of life,  
add Isoptin instead of a beta blocker.

**F**irst, Isoptin not only reduces myocardial oxygen demand by reducing peripheral resistance, but also increases coronary perfusion by preventing coronary vasospasm and dilating coronary arteries — both normal and stenotic. These are antianginal actions that no beta blocker can provide.

Second, Isoptin spares patients the beta-blocker side effects that may compromise the quality of life.

With Isoptin, fatigue, bradycardia and mental depression are rare. Unlike beta blockers, Isoptin can safely be given to patients with asthma, COPD, diabetes or peripheral vascular disease. Serious adverse reactions with Isoptin are rare at recommended doses; the single most common side effect is constipation (6.3%).

Cardiovascular contraindications to the use of Isoptin are similar to those of beta blockers: severe left ventricular dysfunction, hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no artificial pacemaker is present) and second- or third-degree AV block.

So, the next time a nitrate is not enough, add Isoptin... for more comprehensive antianginal protection without side effects which may cramp an active life style.



**ISOPTIN. Added  
antianginal protection  
without beta-blocker  
side effects.**

# ISOPTIN® (verapamil HCl/Knoll)

80 mg and 120 mg scored, film-coated tablets

**Contraindications:** Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure < 90 mm Hg) or cardiogenic shock, sick sinus syndrome (except in patients with a functioning artificial ventricular pacemaker), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction < 30% or moderate to severe symptoms of cardiac failure) and in patients with any degree of ventricular dysfunction if they are receiving a beta blocker. (See *Precautions*.) Patients with milder ventricular dysfunction should, if possible, be controlled with optimum doses of digitalis and/or diuretics before ISOPTIN is used. (Note interactions with digoxin under *Precautions*.) ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild and controlled by decrease in ISOPTIN dose). Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Such elevations may disappear even with continued treatment, however, four cases of hepatocellular injury by verapamil have been proven by rechallenge. Periodic monitoring of liver function is prudent during verapamil therapy. Patients with atrial flutter or fibrillation and an accessory AV pathway (e.g. W-P-W or L-G-L syndromes) may develop increased antegrade conduction across the aberrant pathway bypassing the AV node, producing a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C. cardioversion, which has been used safely and effectively after ISOPTIN. Because of verapamil's effect on AV conduction and the SA node, 1° AV block and transient bradycardia may occur. High grade block, however, has been infrequently observed. Marked 1° or progressive 2° or 3° AV block requires a dosage reduction or, rarely, discontinuation and institution of appropriate therapy depending upon the clinical situation. Patients with hypertrophic cardiomyopathy (IHSS) received verapamil in doses up to 720 mg/day. It must be appreciated that this group of patients had a serious disease with a high mortality rate and that most were refractory or intolerant to propranolol. A variety of serious adverse effects were seen in this group of patients including sinus bradycardia, 2° AV block, sinus arrest, pulmonary edema and/or severe hypotension. Most adverse effects responded well to dose reduction and only rarely was verapamil discontinued. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacologic effects. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, close surveillance of vital signs and clinical status should be carried out. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patients should be carefully monitored to avoid over- or under-digitalization. ISOPTIN may have an additive effect on lowering blood pressure in patients receiving oral antihypertensive agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Clinical experience with the concomitant use of ISOPTIN and short- and long-acting nitrates suggest beneficial interaction without undesirable drug interactions. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. **Pregnancy Category C:** There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use.

**Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia HR < 50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%), elevations of liver enzymes have been reported (See *Warnings*.) The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: ecchymosis, bruising, gynecomastia, psychotic symptoms, confusion, paresthesia, insomnia, somnolence, equilibrium disorder, blurred vision, syncope, muscle cramp, shakiness, claudication, hair loss, macules, spotty menstruation. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in round, scored, film-coated tablets containing either 80 mg or 120 mg of verapamil hydrochloride and embossed with "ISOPTIN 80" or "ISOPTIN 120" on one side and with "KNOLL" on the reverse side. Revised August, 1984

2385



**KNOLL PHARMACEUTICAL COMPANY**  
30 NORTH JEFFERSON ROAD, WHIPPANY, NEW JERSEY 07981

2406

## EMPLOYEES APPRECIATE THE PAYROLL SAVINGS PLAN.

JUST ASK THE  
PEOPLE AT THE  
BOEING COMPANY.

"My folks gave me a Bond for my birthday every year. Now I can do the same for my kids."

—Vaughn Hale



"It's certainly a painless way to save. The money comes directly out of my paycheck every two weeks."

—Florence Perry



"This is one way I can support my government and save at the same time."

—Douglas Scribner



U.S. Savings Bonds now offer higher variable interest rates and a guaranteed return. Your employees will appreciate that. They'll also appreciate your giving them the easiest, surest way to save.

For more information, write to: Steven R. Mead, Executive Director, U.S. Savings Bonds Division, Department of the Treasury, Washington, DC 20226.



**U.S. SAVINGS BONDS**  
Paying Better Than Ever

A public service of this publication.



# CME QUIZ

TO OBTAIN ONE HOUR OF CATEGORY 1 AMA CME CREDIT, answer the following questions by circling the correct answer on the answer sheet below. Complete and clip the application form and mail it to: Indiana University School of Medicine, CME Division, BR 156, 1226 W. Michigan St., Indianapolis 46223.

## Breast Cancer

CONTINUED FROM PAGES 512-515

1. The pioneer of radical irradiation of breast cancer was a surgeon named:
  - a. Schwartz
  - b. Keynes
  - c. Haagensen
  - d. Crile
2. The first report of a randomized series demonstrating therapeutic equivalence between radical mastectomy and quadrantectomy with irradiation was published in the *New England Journal of Medicine* in 1981 by:
  - a. Veronesi
  - b. Bonnadonna
  - c. Atkins
  - d. Fisher
3. The Guy's Hospital Trial was a:
  - a. Nonrandomized trial demonstrating the superiority of radical surgery over excision and irradiation
  - b. Nonrandomized trial demonstrating the superiority of excision and irradiation over radical surgery
  - c. Randomized trial demonstrating the superiority of radical surgery over excision and irradiation.
  - d. Randomized trial demonstrating the superiority of excision and irradiation over radical surgery.
4. Farrow's report of excessive local recurrence in patients treated by biopsy and breast irradiation demonstrates:
  - a. Inappropriate therapeutic design
  - b. Clear condemnation of complete excision followed by breast irradiation
  - c. The close association between local and distant treatment failures
  - d. No advantage of complete excision over needle or incisional biopsy
5. The largest randomized prospective trial comparing radical versus breast conserving surgery and irradiation in the primary treatment of breast cancer is:
  - a. Guy's Hospital Trial
  - b. The Milan Trial
  - c. The NCI Trial
  - d. The NSABP Trial
6. The largest randomized trial to date of differing modalities in the primary treatment of breast cancer studied approximately how many patients:
  - a. 1,100
  - b. 2,100
  - c. 3,100
  - d. 4,100
7. The National Surgical Adjuvant Breast Project (Protocol B-06) randomized patients between which of the following:
  - a. Total mastectomy and axillary dissection versus segmental mastectomy and axillary dissection versus segmental mastectomy and axillary dissection plus breast irradiation
  - b. Total mastectomy and axillary dissection versus quadrantectomy and axillary dissection versus quadrantectomy and axillary dissection plus breast irradiation
  - c. Modified radical mastectomy versus segmental mastectomy and axillary dissection plus breast irradiation
  - d. Modified radical mastectomy versus quadrantectomy and axillary dissection versus quadrantectomy and axillary dissection plus breast irradiation

## MAY CME QUIZ Answers

Following are the answers to the CME quiz that appeared in the May 1986 issue: "Dissociative Disorders: Diagnosis and Treatment," by Philip M. Coons, M.D.

1. b
2. b
3. e
4. c
5. b
6. c
7. e
8. e
9. d
10. a

CONTINUED ON PAGE 564

### Answer sheet for Quiz: (Breast Cancer)

- |            |             |
|------------|-------------|
| 1. a b c d | 6. a b c d  |
| 2. a b c d | 7. a b c d  |
| 3. a b c d | 8. a b c d  |
| 4. a b c d | 9. a b c d  |
| 5. a b c d | 10. a b c d |

I wish to apply for one hour of category 1 AMA Continuing Medical Education credit through the I.U. School of Medicine. I have read the article and answered the quiz in the answer sheet above. I understand that my answer sheet will be graded confidentially, at no cost to me, and that notification of my successful completion of the quiz (30% of the questions answered correctly) will be directed to me for my application for the Physician's Recognition Award of the American Medical Association. I also understand that if I do not answer 80% of the questions correctly, I will not be advised of my score but the answers will be published in the next issue of INDIANA MEDICINE.

Name (please print or type)

Address

Identification number (found above your name on mailing label)

Signature

To be eligible for this month's quiz, send your completed, signed application before July 10, 1986 to the address appearing at the top of this page.



# PHYSICIANS' DIRECTORY

## OPHTHALMOLOGY



### Indiana Eye Associates

#### COMPLETE MEDICAL, DIAGNOSTIC & SURGICAL OPHTHALMIC SERVICES

- Eye Examinations
- Consultations
- Surgery: Cataract, Implant, Glaucoma, Laser, Pediatric, Plastic, Retinal, Corneal and Refractive
- Contact Lenses: Hard, Soft, Gas Permeable & Extended Wear
- Visual Fields
- Ocular & Endothelial Photography
- Ultrasonography

#### Physicians:

David L. Alvis, M.D.	Jack L. Kane, M.D.
Peter H. Cahn, M.D.	John E. Mitchelson, M.D.
George A. Clark, M.D.	Francis W. Price Jr., M.D.
Parvin D. Gillim, M.D.	George E. Waters Jr., M.D.

Indiana Eye Associates P.C.  
9100 Meridian Square  
50 East 91st Street (at North Meridian)  
Indianapolis, IN 46240  
Phone: (317) 848-1348

## ABDOMINAL SURGERY

### TED W. GRISELL, M.D.

*Providing consultative services  
for physicians throughout Indiana  
for patients with  
complex management problems*

5317 East 16th Street  
Indianapolis 46218

317-359-8261

Phone answered 24 hours

## NEUROLOGY

### SHIRLEY M. MUELLER, M.D. NEUROLOGY

Pain, Headache &  
Diseases of the  
Autonomic Nervous System  
(including testing)

**317-871-6000**

**NORTH:** St. Vincent's Professional Bldg. #726  
**SOUTH:** Greenwood Heights Professional Bldg. #6

### Attention Indiana Physicians

The *Physicians' Directory* is the most ethical and professional method of announcing specialty practice. It is also the most effective medium for listing office location, office hours, and telephone number for the convenience of colleagues in referring patients.

The title of diplomate of a specialty examining board, a requirement for admission to the *Directory*, offers its assurance of qualifications, whether listed or not.

Family physicians may announce office schedules that are reciprocally staggered in order to provide access to evening and weekend and holiday medical service.

In addition to providing benefits to physicians, the *Directory* is a practical means of providing financial support for INDIANA MEDICINE.

All diplomates of the ISMA are invited to enter a professional card in the *Directory*.

# ***PHYSICIANS' DIRECTORY***

## **CARDIOLOGY DIAGNOSTIC AND INTERVENTIONAL**

**WILLIAM K. NASSER, M.D.**

**MICHAEL L. SMITH, M.D.**

**DENNIS K. DICKOS, M.D.**

**CASS A. PINKERTON, M.D.**

**JOHN D. SLACK, M.D.**

**JAMES W. VAN TASSEL, M.D.**

**CHARLES M. ORR, M.D.**

**JANE HOWARD, M.D.**

CARDIOLOGY AND CARDIAC CATHETERIZATION  
ECHOCARDIOGRAPHY  
EXERCISE STRESS TESTING  
CORONARY ANGIOPLASTY  
NUCLEAR CARDIOLOGY  
PACEMAKER SURVEILLANCE  
HOLTER MONITORING

**ST. VINCENT PROFESSIONAL BUILDING**  
SUITE 400  
8402 HARCOURT ROAD  
INDIANAPOLIS, INDIANA 46260

PHYSICIAN  
REFERRAL ONLY

TELEPHONE (317) 875-9316  
(TOLL-FREE) 800-732-1482  
(TOLL-FREE) 800-CHD-PTCA  
DAY OR NIGHT

# PHYSICIANS' DIRECTORY

## COLON AND RECTAL SURGERY

W. M. KENDRICK, M.D.  
G. A. DONNALLY, M.D.  
R. JAMES WILSON, M.D.  
W. E. KELLEY, M.D.  
RICHARD L. STOUT, M.D.

Certified: International Board of Proctology

Practice limited to Colonoscopy,  
Treatment and Surgery of Rectal Diseases

**Kendrick Memorial Hospital, Inc.**  
**Mooresville, Indiana**  
**Tel: 317-831-9300**

(JCAH Accredited)

## PLASTIC SURGERY

AMBULATORY SURGERY FACILITY  
1944 N. Capitol Ave. Indianapolis 46202

"An office surgery facility"

**HAROON M. QAZI, M.D., F.A.C.S.**  
Diplomate, American Board of Plastic Surgery  
Phone: 317-923-4822 317-926-3466

A space this size in the Physicians' Directory costs only \$120. Even a notice this size will serve to provide referrals for the next 12 months.

## ALCOHOLISM TREATMENT



**KOALA  
CENTER**

### Individualized Treatment for Alcoholism and Drug Abuse

Men — Women — Adolescents

Michael Chadwick, M.D.  
David Gregory, M.D.  
Koala Center  
2223 Poshard Drive  
Columbus, Indiana  
(812) 376-1711

John Krueger, M.D.  
Koala Center of  
St. Joseph's Hospital  
700 Broadway  
Fort Wayne, Indiana  
(219) 425-3825

John Saalwaechter, M.D.  
Koala Center  
1711 Lafayette Avenue  
Lebanon, Indiana  
(317) 482-3711  
and  
Koala Adolescent  
1404 S. State Avenue  
Indianapolis, Indiana  
(317) 783-4084

Daniel Kubley, M.D.  
Koala Center  
1800 N. Oak Road  
Plymouth, Indiana

**Indiana Toll-Free  
24-Hour HELPLINE  
1-800-622-4711**

### OUTREACH OFFICES

Bloomington  
Clarksville  
Hammond  
Indianapolis  
Marion  
Richmond  
South Bend  
Muncie  
Crawfordsville



# PHYSICIANS' DIRECTORY

## CARDIOLOGY

### INDIANAPOLIS CARDIOLOGY ASSOCIATES, INC.

Robert E. Edmands, M.D.  
Samuel M. Hazlett III, M.D.

Abdel A. Zeni, M.D.  
Don B. Ziperman, M.D., F.A.C.C.

CARDIOLOGY AND CARDIAC CATHETERIZATION  
ECHOCARDIOGRAPHY  
EXERCISE STRESS TESTING  
CORONARY ANGIOPLASTY  
PACEMAKER SURVEILLANCE  
HOLTER MONITORING

1315 North Arlington Avenue  
Suite #100  
Indianapolis, Indiana 46219  
(317) 359-3501

*PHYSICIAN REFERRAL ONLY*

1500 Albany Street  
Suite #912  
Beech Grove, Indiana 46107  
(317) 786-9211

## PERIPHERAL VASCULAR SURGERY

## ALCOHOLISM TREATMENT



**VASCULAR SURGERY, INC.**

**AUSTIN L. GARDNER, M.D., F.A.C.S.**  
**MALCOLM B. HERRING, M.D., F.A.C.S.**  
**DANIEL R. LeGRAND, M.D., F.A.C.S.**  
**DAVID L. MADISON, M.D.**

8402 HARCOURT ROAD, SUITE 613  
INDIANAPOLIS, INDIANA 46260

OFFICE HOURS BY APPOINTMENT  
TELEPHONE (317) 872-4129

OR  
800-662-5367  
8 a.m.-5 p.m. only  
Monday-Friday

## Douglas Bullington, M.D.

Program Director



### COUNTERPOINT CENTER

at Valle Vista Hospital  
898 E. Main Street  
Greenwood, IN 46142  
317/887-1348

- Free evaluation and intervention
- Adult & Adolescent Treatment Services
- 24 hours-a-day

# PHYSICIANS' DIRECTORY

## INTERNAL MEDICINE

### NEPHROLOGY & INTERNAL MEDICINE, INC.

Thomas Wm. Alley, M.D., FACP    Theodore F. Hegeman, M.D.  
George W. Applegate, M.D.    Douglas F. Johnstone, M.D.  
Charles B. Carter, M.D.    Wendy L. Kindig, M.D.  
William H. Dick, M.D., FACP    LeRoy H. King, Jr., M.D., FACP  
Mary A. Margolis, M.D.

1801 N. Senate Blvd, Suite 355, Indianapolis 46202  
Tel: 317-924-8425

By Physician Referral

Answering Service 926-3466

CLINICAL NEPHROLOGY, RENAL TRANSPLANTATION, HEMODIALYSIS, PERITONEAL DIALYSIS, HYPERTENSION, FLUID AND ELECTROLYTE IMBALANCE, CRITICAL CARE.

### MERIDIAN MEDICAL GROUP, INC.

MAIN OFFICE—1801 N. Senate Blvd.  
929-5800

NORTH OFFICE—3077 E. 98th St.  
(98th & Keystone) 843-8704

#### CARDIOLOGY

Richard M. Nay, M.D. 929-8505  
Warren E. Coggeshall, M.D. 846-5666  
Richard R. Schumacher, M.D. 929-5818

#### GASTROENTEROLOGY

Robert D. Pickett, M.D. 846-4696  
Lee G. Jordan, M.D. 929-5826  
Martin P. Meisenheimer, M.D. 929-5816  
John C. Kohne, M.D. 929-5822

#### HEMATOLOGY/ ONCOLOGY

James E. Schroeder, M.D. 929-5812  
Frank A. Workman, M.D. 929-5813

#### METABOLISM & ENDOCRINOLOGY

William M. Holland, M.D. 843-8700

#### INTERNAL MEDICINE

Hunter A. Soper, M.D. 929-5810  
Douglas H. White, Jr., M.D. 843-8736  
B. T. Maxam, M.D. 843-8703  
Michael B. DuBois, M.D. (GERIATRICS) 929-5806

Patricia K. Hendershot, M.D. 929-5815  
Douglas J. Moeller, M.D. 929-5808  
Timothy J. Story, M.D. 929-5811  
John F. Schaefer, Jr., M.D. 929-5807

#### NEUROLOGY

Bradford R. Hale, M.D. (PEDIATRICS) 929-5823

#### PULMONARY DISEASES

Michael R. Niemeier, M.D. 929-5820

## CLINICAL, ANATOMIC PATHOLOGY



### The Medical Laboratory

of Drs. Thornton Haymond - Costin- Buehl  
Bolinger - Warner - McGovern - McClure - Hooker

5940 West Raymond Street, Indianapolis, Indiana 46241

Phone: (317) 248-2448

### COMPLETE LABORATORY SERVICES

Serving Indiana Since 1947

- MICROBIOLOGY
- SEROLOGY
- CHEMISTRY
- SURGICAL PATHOLOGY
- HEMATOLOGY
- COAGULATION
- FORENSIC
- CYTOLOGY
- EKG
- VETERINARY PATHOLOGY
- TOXICOLOGY
- COURIER SERVICES



### CLINICAL AND ANATOMIC PATHOLOGY

Central Testing Facility:  
5940 W. Raymond St.

For information and details phone  
248-2448

## RHINOLOGY

By appointment only

317-359-9636

### CARL B. SPUTH, M.D.

*Diseases & Surgery of Nose & Sinuses  
Plastic Surgery of the Nose  
Nasal Allergy, Rhinomanometry*

5506 E. 16th St.

Indianapolis 46218

# PHYSICIANS' DIRECTORY

## OTOLOGY

### MERIDIAN OTOLOGY LAB

- \*Complete Audiometric Evaluations
- \*Hearing Aid Evaluations and Dispensing
- \*Brainstem Auditory Evoked Response
- \*Visual Evoked Response
- \*Electronystagmography

Richard Kurtz, M.D.      Jack Summerlin, M.D.  
Kathleen Corbin, M.A., CCC-A  
Audiologist

3266 N. Meridian Street      Indianapolis, Indiana  
Suite B12      (317) 925-7077

## PSYCHIATRY

### Davis Psychiatric Clinic, Inc.

1431 North Delaware Street  
Indianapolis, Indiana 46202  
317/634-9930

James R. Davis, M.D.      R. Peter Mohlman, M.D.  
Larry M. Davis, M.D.      George McAfee, M.D.  
Balwant S. Mallik, M.D.      Judith L. Campbell, M.D.

Comprehensive Child, Adolescent, Adult Psychiatry  
Sexual Therapy, Crisis Intervention  
Alcohol and Substance Abuse

## DERMATOPATHOLOGY

### DERMATOPATHOLOGY LABORATORY

Larry J. Buckel, M.D.  
Robert M. Hurwitz, M.D.

Howard R. Gray, M.D.  
William B. Moores, M.D.



Diplomates of the American Boards  
of  
Dermatology and Dermatopathology

*Specializing in*  
Inflammatory Skin Diseases  
and  
Neoplasms of the Skin

9202 North Meridian Street  
Suite 215

Approved for and Accept  
Medicare and Medicaid  
Assignment

Indianapolis, Ind. 46260  
(317) 843-2204

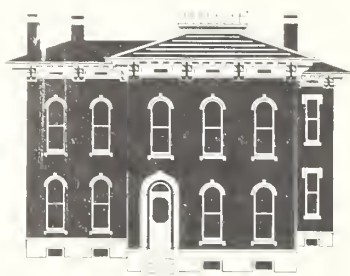
UPS Mailers and Courier Service Available



# *PHYSICIANS' DIRECTORY*

## ONCOLOGY—HEMATOLOGY

### INDIANA ONCOLOGY-HEMATOLOGY CONSULTANTS



#### ADULT ONCOLOGY HEMATOLOGY

Laurence H. Bates, M.D.  
William H. Bond, M.D.  
William M. Dugan, M.D.  
Redmond P. Hogan, M.D.  
Gregory W. Smith, M.D.

#### PEDIATRIC ONCOLOGY HEMATOLOGY

Deborah S. Provisor, M.D.

#### HOSPICE CARE-INTERNAL MEDICINE

Neil E. Irick, M.D.

1828 N. ILLINOIS  
INDIANAPOLIS  
INDIANA 46202

PHONE: 317/927-5770  
TOLL FREE: 1-800-ONC-HEME  
1-800-662-4363

*Located in the Byram Gates Middleton House  
Listed on the National Register of Historic Places*

# PHYSICIANS' DIRECTORY

CLINICAL, ANATOMIC PATHOLOGY

## **GPL** CENTRAL INDIANA PATHOLOGY LABORATORIES, INC.

Edwin E. Pontius, M.D., F.C.A.P.      Mary L. Forster, M.D., F.C.A.P.  
*Director*                                      *Co-Director*

Elizabeth C. Bond, M.T.(ASCP), S.M.  
*Administrator*

- PROMPT WALK-IN SERVICE
  - 24 HOUR TURNAROUND FOR MOST TESTS
  - COURIER SERVICE FOR PHYSICIAN OFFICES
  - ASSIGNMENT ACCEPTED ON MEDICARE AND MEDICAID
  - BLUE SHIELD PREFERRED PROVIDER
- MAIN LABORATORY**  
Northwest Medical Building  
3500 Lafayette Rd.  
291-9364
- BRANCH LOCATIONS**  
Westlake Medical Building  
805 Beachway Dr. 244-7754  
Zionsville  
50 Boone Woods 873-4286

• A FULL SERVICE OUTPATIENT CLINICAL LABORATORY •

## ORTHOPEDIC FOOT SURGERY

### **ROBERT M. PALMER, M.D.** **A.A.O.S. F.A.C.S.**

Diplomate of the American Board  
of Orthopaedic Surgery

Member of the American Orthopaedic  
Foot and Ankle Society

### **ORTHOPAEDIC RECONSTRUCTIVE SURGERY OF THE FOOT AND ANKLE**

2020 W 86th Street, Suite 304  
Indianapolis, Indiana 46260  
(317) 872-3364

## HAND SURGERY

### **VIDYASAGAR S. TUMULURI, M.D., F.A.C.S., INC.**

DIPLOMATE AMERICAN BOARD OF SURGERY

*Acute & Reconstructive Hand Surgery*

By Appointment      South Sherman Professional Complex  
Telephone (317) 783-1319      3417 S Sherman Dr. Suite F  
If No Answer Call (317) 926-3466      Beech Grove Indiana 46107

A space this size in the Physicians' Directory costs only \$120. Even a notice this size will serve to provide referrals for the next 12 months.

# NEWS NOTES

## For the Asking . . .

• "The New Threat of Toxic Torts" is the lead article in the March-April 1986 issue of *ACSH News & Views*. The subhead reads, "In current usage, 'toxic torts' refers to those cases of injury caused by any of the array of agents which poison or contaminate persons or places. In this article, the consequences of over-use of litigation are shown to establish quite another definition." Copies of the issue may be obtained from the American Council on Science and Health, 47 Maple St., Summit, N.J. 07901.

• A video documentary on endangered water supplies has been produced by AMOIL, Inc. It received an award for demonstrating the status and safety of drinking water in the U.S. For a videocassette, either VHS or Beta, send \$24.95 to "Poison on Tap," AMOIL, Inc., AMOIL Bldg., Superior, Wisc. 54880. Send inquiries for information on 16mm film rental of this documentary to the same address. Phone (715) 392-7101.

• The Medical Practice Letter issue for February 1986 contains an extended discussion of "Medical Staff—Hospital Joint Ventures." Such ventures are of great importance and will probably become more and more important with passage of time. MPL yearly subscription price is \$135; back copies of individual issues are \$12 each. Write MPL, 227 Everit St., New Haven, Conn. 06530.

• "The Physician's Advisory" is an exclusive monthly report on business, tax, management and financial matters important to health care practices. It is edited and published by Leif C. Beck, LL.B. of Bala Cynwyd, Pa. The April 1986 issue features a lead article on "Who should be liable for a partner's malpractice?" This is a good advisory for all partnership practices. Many other short advisories appear each month for the benefit of physicians. The subscription price is \$120 yearly—12 issues. One issue is \$15. The address is MCA Publications, P.O. Box 126, Bala Cynwyd, Pa. 19004.

• Overeaters Anonymous is an organization designed to help people overcome compulsive overeating. Patterned after Alcoholics Anonymous, Overeaters Anonymous uses the concept of abstinence as the basis for recovery. By admitting an inability to control compulsive overeating, and abandoning the idea that all one needs to be able to eat normally is will power, members are able to abstain from overeating. Overeaters Anonymous offers support in dealing with the physical and emotional symptoms of compulsive overeating. For weight loss, any medically approved eating plan is acceptable. There are no weigh-ins, diets, dues or fees. For more information, contact Overeaters Anonymous, P.O. Box 92870, Los Angeles 90009—(213) 320-7941.

• "Hospital Privileges and Specialty Medicine" is the title of a new book published by the American Board of Specialties and the American Hospital Association. The book reviews the new and traditional aspects of hospital medical staff credentialing, as well as recertification and physician qualifications and assessing and monitoring medical practice in the hospital. It also covers the legal aspects of clinical privilege delineation. Order from the Board at P.O. Box 1280, Evanston, Ill. 60204. \$34.95.

## CME Quiz . . .

CONTINUED FROM PAGE 555

8. The National Surgical Adjuvant Breast Project (Protocol B-06) demonstrated in a prospective randomized fashion that a surgical procedure leaving the breast intact:
- Provided identical local control to that of breast removal or breast irradiation
  - Provided superior local control to that of breast removal or breast irradiation
  - Provided inferior local control compared with breast removal or breast irradiation
  - Provided inferior local control to breast removal even with the addition of breast irradiation
9. In the NSABP study, the disease-free survival was:
- Markedly superior for the patients treated by breast removal compared with breast irradiation
  - Somewhat better for breast removal compared with breast irradiation, although not statistically significant
  - Slightly improved in patients undergoing breast irradiation compared with breast removal, although not statistically significant
  - Significantly better for patients undergoing breast irradiation compared with breast removal
10. In the NSABP study, patients with negative nodes treated with breast conserving surgery alone experienced 67.8% five-year disease-free survival while the disease-free survival for breast conserving surgery and irradiation was:
- 80.9%
  - 71.6%
  - 63.2%
  - 58.9%

• The Rainbow Brite "I'm a Fit Kid" Coloring Book was prepared by Hallmark Properties in cooperation with the American Academy of Family Physicians and the President's Council on Physical Fitness and Sports. It is not only a coloring book, but contains a program for physical fitness and a Certificate of Achievement. It contains a definition of fitness and messages from President Reagan and Dr. Richard Inskip, president of the AAFP. The motto of the publication is "Keeping fit your whole life through makes a healthier, happier you." Non-members of the AAFP may obtain 250 copies or less by calling William Delay at 1-800-821-2512. A donation to cover postage and handling is requested.



## Rick King Assumes Post as ISMA Executive Director

Richard R. (Rick) King is the newly appointed executive director of the Indiana State Medical Association. He succeeds Donald F. Foy, who is now the executive vice-president of the Medical Society of the State of New York.

Mr. King, 37, joined the Association in 1976 as legislative counsel. He eventually became director of the Indiana Medical Political Action Committee, and was subsequently promoted to associate executive director in 1984.

Mr. King, formerly an attorney with the Marion County Prosecutor's Office, is a graduate of the Indiana University School of Law. He is a member of the Indiana State Bar Association, the Indianapolis Bar Association, and the Law and Medical Association. He is a Major in the Indiana Army National Guard's Judge Advocate General's Corps.



Richard R. King

King, originally from Muncie, is married to Mari Toni Peabody, a graduate of Indiana University. They have two children.

## McDonald's Offers \$100,000

Ronald McDonald Children's Charities will award \$100,000 to the physician or health care professional whose work has contributed the most to the health and well-being of children.

Deadline for nominations is June 30. Mail to Gerald Newman, President, Ronald McDonald Children's Charities, McDonald's Plaza, Oak Brook, Ill. 60521.

## Geriatrics Meetings

The 43rd annual meeting of the American Geriatrics Society and the 7th annual meeting of the American Federation of Aging Research will be conducted jointly Nov. 16 to 19 at the Marriott Hotel in Chicago.

For details, contact the American Geriatrics Society, Room 1470, 10 Columbus Circle, New York, N.Y. 10019—(212) 582-1333.

# Co-Gesic<sup>®</sup>

(500 mg. Acetaminophen - 5 mg. Hydrocodone Bitartrate)



Proven  
Dependability



**CENTRAL PHARMACEUTICALS, INC.**

SEYMOUR, INDIANA 47274 USA

*Quality Pharmaceuticals Since 1904*

# NEWS NOTES

## Here and There . . .

Dr. George L. Baker of Evansville has been appointed vice-president and medical director of Mead Johnson's nutritional division.

Dr. Thomas A. Barley, a North Vernon internist, has been elected to membership in the American College of Physicians.

Dr. George H. Rawls of Indianapolis gave the Culpepper History of Medicine Lecture at Indiana University in April; he spoke on "The History of the Black Physicians in Indianapolis—1870 to 1980," which is also the title of a book he wrote recently.

Dr. Dean Maglinte of Indianapolis was the visiting Professor of Radiology to the Thomas Jefferson University Hospital, Philadelphia, in April.

Dr. William D. Province of Franklin has received the Indiana Park and Recreation Association's Outstanding Service Award for 1986 for his long-time help in improving and developing the Franklin and Johnson County Parks and Recreation departments.

Dr. Steven R. Gable of South Bend discussed multiple sclerosis during a spring seminar on that subject in Elkhart.

Dr. Frederick R. Dettloff of Greencastle has retired from practice after 48 years as a Putnam County general practitioner.

Dr. Gordon C. Cook, a South Bend gynecologist since 1946, has retired from practice.

Dr. Elaine P. Habig and Dr. Robert J. Kunz of Lebanon discussed Premenstrual Syndrome and Osteoporosis, respectively, during a spring health awareness series in Lebanon.

Dr. Ned B. Hornback, chairman of Radiation Oncology at the I.U. School of Medicine, presented two lectures in April: He discussed the use of hyperthermia in cancer therapy at the University of Missouri, and radiobiology and radiation physics in the treatment of cancer at a meeting of the I.U. School of Nursing.

Dr. Jerry L. House of Indianapolis was a panel member at a recent training symposium on multiple channel cochlear implants in children.

Dr. George T. Lukemeyer of Indianapolis has been re-elected to a second term as secretary general of the American College of Physicians.

Dr. Gregory P. Sutton of Indianapolis has received a Clinical Oncology Career Development Award from the American Cancer Society; the work will run from July 1, 1986 through June 30, 1988.



Dr. Faris

Dr. James V. Faris, an Indianapolis cardiologist, has been nominated for an alumni seat on the I.U. Board of Trustees; he is a life member of the I.U. Alumni Association.

Dr. Henry N. Wellman of Indianapolis has been elected to fellowship in the American College of Radiology; he is director of the Division of Nuclear Medicine at the I.U. School of Medicine.

Dr. Edward L. Davis of Terre Haute discussed osteoporosis during an April workshop sponsored by Union Hospital and the Terre Haute YWCA.

Dr. Richard V. Breitenfeld of Muncie addressed the local Lupus Support Group in April.

The D.M. Hayes Award for community service has been awarded posthumously to Dr. Don A. Sears, an Odon general practitioner who died in July 1985.

Dr. Neil J. Stalker of Peru discussed "Social Difficulties of the Learning Disabled Child" during an April meeting of the Association for Children and Adults with Learning Disabilities.

Dr. R.P. Unni of Merrillville was the main speaker at an April awareness program dealing with impotence.

Dr. Dilip R. Kelekar of Michigan City discussed arthritis surgical procedures at the April meeting of the local Senior Center.

Dr. Robyn Goshorn of Franklin discussed "Exercise and Your Heart" at the April meeting of the Johnson County Heart Throbs.

Dr. R. Kelly Chambers of Anderson discussed "Complications of Diabetes in Heart Disease" during the April meeting of the Madison County Chapter, American Diabetes Assn.

Dr. Claude E. Davis, an Angola general surgeon since 1960, has retired from practice.

Dr. Marvin R. Bernard of Merrillville has been elected president of the Indiana Neurological Society.

Dr. Jack M. Kamen of Gary discussed lung disorders during a recent program at St. Mary Medical Center, Hobart.

Dr. Craig A. Moorman, a Franklin pediatrician, discussed "Kid-proofing the House" during a spring meeting of the Franklin Business and Professional Women.

Dr. William E. Dye of Oakland City has been recognized by the American Academy of Family Physicians for 25 years of membership.

## Budweiser TV Spot Salutes Physical Therapists

"You bring out the pride that we all feel inside" is part of the salute message to America's physical therapists in a Budweiser beer television commercial that debuted in April.

Titled "Walking Tall," the 30-second spot focuses on a physical therapist and a patient who is being introduced to rehabilitation treatment for the first time. Working to overcome a disabling leg condition, the patient is assisted by the therapist throughout his exercise routine, which includes weight training, an exercise-bike workout, and an emotion-filled walk with the aid of handrails and the trainer's heart-felt encouragement.



## New ISMA Members

The following physicians were welcomed in April as new members of the Indiana State Medical Association:

LeRoy R. Aders, M.D., Kokomo, emergency medicine.

Clair L. Bernardin, M.D., Indianapolis, obstetrics and gynecology.

Lester J. Daros, D.O., Highland, family practice.

S. Thomas Ferguson, D.O., Terre Haute, general practice.

Maria V. Fletcher, M.D., Beech Grove, family practice.

David A. Hall, M.D., Wolflake, anesthesiology.

Lynne J. Hart, M.D., Indianapolis, emergency medicine.

Daniel L. House, M.D., Muncie, pathology.

Maurice R. Hurwich, M.D., South Bend, anesthesiology.

Abdulkader M. Kulam, M.D., Dyer, anesthesiology.

David G. Lukens, M.D., Indianapolis, family practice.

Jeanne K. Mercer, M.D., Merrillville, pediatrics.

Duong D. Nguyen, M.D., Richmond, general practice.

Robert B. Parker, M.D., Jasper, internal medicine.

James P. Poirier, M.D., Loogootee, general practice.

Thomas J. Ringenberg, D.O., Huntington, family practice.

Richard H. Silverman, M.D., Valparaiso, neurology.

Thomas T. Streeter, M.D., Indianapolis, general surgery.

Sung O. Whang, M.D., Angola, general surgery.

### Residents:

Gary M. Ayres, M.D., Indianapolis, internal medicine.

Timothy M. Bont, M.D., South Bend, family practice.

Glenwood A. Charles, M.D., Indianapolis, head and neck surgery.

George Elmes, M.D., Zionsville, internal medicine.

Joseph Fraiz, M.D., Indianapolis, infectious diseases.

James E. Jenison, M.D., Oaklandon, internal medicine.

Michael T. Johnson, M.D., Indianapolis, internal medicine.

Theodore A. Lee III, M.D., Indianapolis, diagnostic radiology.

Christopher L. Marquart, M.D., Indianapolis, neurological surgery.

Katrina A. Roch, M.D., Indianapolis, obstetrics and gynecology.

David L. Tetrick, M.D., Indianapolis, internal medicine.

Douglas H. Webb, M.D., Zionsville, infectious diseases.

Robert W. Weller Jr., M.D., Indianapolis, pulmonary diseases.

## License Renewal Time

The Medical Licensing Board of Indiana began mailing license renewal notices May 1. Renewal fees are due by June 30. The renewal fee is \$40, although a penalty fee of \$200 will be assessed if the renewal is not accomplished by Aug. 31.

Physicians who have moved since last receiving a renewal registration form should notify the Medical Licensing Board of their new address. Failure to renew will render a license to practice medicine invalid.

The Medical Licensing Board is located at 924 N. Pennsylvania, Indianapolis 46204—(317) 232-2960.

## New Test Predicts Osteoporosis Susceptibility

A new test, which shows promise for predicting which women will suffer from "estrogen withdrawal syndrome" and develop osteoporosis, is reported in the March 28, 1986 issue of *JAMA*.

The research in monkeys that established the new theory also demonstrated that clomiphene citrate (an antiestrogenic agent used to stimulate ovulation) prevented osteoporosis in the animals almost as well as conventional estrogen therapy and does not cause endometrial proliferation.

It is now early in the clinical investigation of the new test and it is possible that differing life-styles such as exercise, dieting and smoking in women may influence calcium levels and cause the test results in women to be less reliable than it was in monkeys.

### Let Us Know!

Send your news items and comments to the Editor, INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis 46208.

## FAMILY PRACTITIONERS

Make The Contact That Makes a Difference.

**M**edEcon Placement Network is the system for recruiting physicians and health care professionals. Our dedicated team of consultants boasts more than 30 years experience. Plus we work with more than 650 member hospitals and health care concerns across the country. As a result, we're in far closer contact with those institutions and their needs. The broad nature of our member base (from 25-bed specialized care centers to 1800 bed university settings) means we'll be able to carefully tailor our search to your individual needs.

We have hospital-based or hospital-affiliated solo, group and associate private practice opportunities available for Family Practitioners in virtually any type of community in most areas of the country. We also secure placement for physicians in other specialty areas.

You owe it to yourself to find out more. There is no obligation to you. Call Pam Catlett TOLL FREE at 1 800 826-5013 or COLLECT 502/425 8311, or send your curriculum vitae to: MedEcon Placement Network, 9505 Williamsburg Plaza, Dept. M 6, Louisville, KY 40222.

Serving over 650 hospitals in 30 states.

**MedEcon  
Placement  
Network**







## THE INDIANA MEDICAL FOUNDATION, INC.

3935 North Meridian Street

Indianapolis 46208

A foundation for charitable, educational, and scientific purposes, organized by the ISMA as an endowment fund to support the educational mission of the Association and INDIANA MEDICINE.

Bequests, legacies, devises, transfers or gifts to the Foundation or for its use are deductible for federal estate and gift tax purposes, in accordance with the Internal Revenue Code.

The Foundation is managed by a board of directors that comprises the members of the ISMA Executive Committee. At present, proceeds from the Foundation investments are awarded to INDIANA MEDICINE to further the continuing medical education program.

Memorial contributions made to the Foundation in lieu of flowers will be acknowledged by the secretary in a letter to the family of the deceased.

*"for religious, charitable, scientific,  
literary or educational purposes"*

# Look-Alike and Sound-Alike Drug Names

**BENJAMIN TEPLITSKY, R. PH.**  
Brooklyn, N.Y.

Look-alike and sound-alike drug names can be misinterpreted by a nurse reading doctors' orders or by a pharmacist compounding physicians' prescriptions. Such misunderstandings can result in the administration of a drug not intended by the prescriber. Awareness of such look-alike and sound-alike drug names can reduce potential errors.

*Category:*  
*Brand Name:*  
*Generic Name:*  
*Dosage Forms:*

**PATHILON**  
Antispasmodic  
Pathilon, Lederle  
Tridihexethyl Chloride  
Tablets

**PATHOCIL**  
Antibiotic  
Pathocil, Wyeth  
Dicloxacillin sodium  
Capsules, Powder for  
Oral Susp.

*Category:*  
*Brand Name:*  
*Generic Name:*

**MEZLIN**  
Antibiotic  
Mezlin, Miles  
Mezlocillin sodium  
Powder for Injection

**MECLAN**  
Acne  
Meclan, Ortho Derm.  
Meclocycline  
Sulfosalicylate  
Cream

## Awareness Program Stresses Link Between Cholesterol and Coronary Disease

A comprehensive, multi-media, multi-component program has been designed to impress physicians with the need to check patients for elevated blood cholesterol (hypercholesterolemia), and then to treat them aggressively if their level is too high.

The program, made possible by an educational grant from Mead Johnson Laboratories, is called "Cholesterol and Coronary Disease: Reducing the Risk." It is sponsored by the College of Physicians and Surgeons, Columbia University, New York City, and the American Heart Association, Dallas; in cooperation with the National Heart, Lung and Blood Institute, the American Heart Association's Committee on Nutrition and Council on Arteriosclerosis, and the American Dietetic Association.

This in-office program, intended to keep physicians updated on cholesterol and coronary heart disease research, provides Category I CME credit from the College of Physicians and Surgeons, Columbia University. It includes:

- A pre-assessment evaluation workbook/questionnaire and explana-

tion of the answers to help the physician quickly determine his current level of knowledge and informational needs;

- A scientific yet clinically useful bimonthly publication;

- A topical audiotape/workbook series;

- Lectures at various sites in the U.S. and regional CME symposia; and

- A Patient Education Kit for explaining to patients diagnostic tests and treatment procedures.

The program, offered to physicians without charge, is designed to create a total picture—not just to be able to make informed clinical decisions, but to understand the mechanisms of the cholesterol-atherogenesis connection.

Robert I. Levy, M.D., is the program chairman. He is Professor of Medicine, College of Physicians and Surgeons, and was formerly director of the National Heart, Lung and Blood Institute's LRC-CPPT 7-10 year study, completed in 1984. In that study it was found that lowering cholesterol levels of participants in the trial—all of whom had cholesterol levels of 265 mg/dl or

over—with diet and cholestyramine (available from Mead Johnson as Questran®) produced a 19% reduction in fatal and non-fatal heart attacks. Moreover, for every 1% reduction in cholesterol level, there was a 2% reduction in the risk of coronary heart disease.

In a letter to physicians describing the new program, Dr. Levy states: "... many of the facts about cholesterol and heart disease remain enigmatic. All health professionals need to know what a high blood cholesterol level is, and what the normal values for the various lipid fractions are. In order to best serve patients, physicians will want to acquaint themselves with the new facts about the etiology and pathogenesis of cholesterol transport disorders and their differential diagnosis as well as the importance of cholesterol reduction..."

To date, 27,000 physicians have enrolled in the program. For more information, physicians may call (212) 427-4261.

# **\$500,000,000 OF RESEARCH HELPED CLIFF SHAW PLAY BASEBALL AT AGE 85.**



In November 1973, Cliff Shaw was stricken with cancer.

Fortunately, it was detected early enough. And with surgery, Cliff was able to continue living a healthy, active life.

There was a time when such a diagnosis was virtually hopeless.

But today, cancer is being beaten. Over the years, we've spent \$500,000,000 in research. And we've made great strides against many forms of cancer.

With early detection and treatment, the survival rate for colon and rectal cancer can be as high as 75%, Hodgkin's disease, as high as 74%, Breast cancer, as high as 90%.

Today, one out of two people who get cancer gets well. It's a whole new ball game.



**AMERICAN CANCER SOCIETY®**

Help us keep winning.



# THE INDIANA STATE MEDICAL ASSOCIATION

## OFFICERS

President — Paul Siebenmorgen, Terre Haute  
 Pres-elect — Shirley Khalouf, Marion  
 Immed Past Pres — Lawrence E. Allen, Anderson  
 Executive Director — Richard R. King, Indpls  
 Treasurer — George H. Rawls, Indpls  
 Asst Treas. — Max Wesemann, Franklin  
 Speaker — Fred W. Dahling, New Haven  
 Vice Speaker — C. Dyke Egnatz, Schererville

## EXECUTIVE COMMITTEE

\*Paul Siebenmorgen, Terre Haute  
 Shirley Khalouf, Marion  
 Lawrence E. Allen, Anderson  
 George H. Rawls, Indpls  
 Max Wesemann, Franklin  
 John D. MacDougall, Beech Grove  
 Fred W. Dahling, New Haven  
 C. Dyke Egnatz, Schererville  
 Mark M. Bevers, Seymour  
 Michael Mellinger, LaGrange

## TRUSTEES (Terms end in October)

### District

- 1 — E. DeVerre Gourieux, Evansville (1986)
  - 2 — Paul J. Wenzler, Bloomington (1987)
  - 3 — Thomas A. Neathamer, Jeffersonville (1988)
  - 4 — Mark M. Bevers, Seymour (1986)
  - 5 — Benny Ko, Terre Haute (1987)
  - 6 — Clarence G. Clarkson, Richmond (1988)
  - \*7 — John D. MacDougall, Beech Grove (1986)
  - 7 — William H. Beeson, Indianapolis (1987)
  - 8 — William C. VanNess II, Summitville (1987)
  - 9 — Max N. Hoffman, Covington (1988)
  - 10 — Nicholas L. Polite, Hammond (1986)
  - 11 — Edward L. Langston, Flora (1987)
  - 12 — Michael O. Mellinger, LaGrange (1988)
  - 13 — Steven M. Yoder, Goshen (1986)
- RMS — John Terry, Indianapolis (1986)

### \*Chairman

## ALTERNATE TRUSTEES (Terms end in October)

### District

- 1 — Bruce W. Romick, Evansville (1988)
  - 2 — Jerome E. Melchior, Vincennes (1986)
  - 3 — Richard G. Huber, Bedford (1986)
  - 4 — William E. Cooper, Columbus (1988)
  - 5 — Fred E. Haggerty, Greencastle (1988)
  - 6 — Ray A. Haas, Greenfield (1986)
  - 7 — Donna J. Meade, Indianapolis (1988)
  - 7 — Michael B. DuBois, Indianapolis (1988)
  - 8 — Douglas A. Triplett, Muncie (1988)
  - 9 — R. Adrian Lanning, Noblesville (1986)
  - 10 — Frank M. Sturdevant, Valparaiso (acting)
  - 11 — Jack W. Higgins, Kokomo (1986)
  - 12 — Thomas A. Felger, Fort Wayne (1986)
  - 13 — Michael H. Thomas, Elkhart (1988)
- RMS — Mark Bradley, Indianapolis (1986)

## AMA DELEGATES (Terms end Dec. 31)

Everett E. Bickers, Floyds Knobs (1986)  
 Malcolm O. Scamahorn, Pittsboro (1986)  
 Gilbert M. Wilhelmus, Evansville (1986)  
 Marvin E. Priddy, Fort Wayne (1987)  
 Peter R. Petrich, Attica (1987)  
 Thomas C. Tyrrell, Hammond (1987)

## AMA ALT. DELEGATES (Terms end Dec. 31)

Alvin J. Haley, Carmel (1986)  
 John A. Knot, Lafayette (1986)  
 Robert M. Seibel, Nashville (1986)  
 Martin J. O'Neill, Valparaiso (1987)  
 Herbert C. Khalouf, Marion (1987)  
 Vincent J. Santare, Munster (1987)

## DISTRICT OFFICERS AND MEETINGS

- 1 Pres: Jeffry C. Rendel, Jasper  
 Secy: Syed A. Ali, Boonville  
 Annual Meeting: 1986, Evansville
- 2 Pres: Frederick R. Ridge Jr., Linton  
 Secy: Harry Rotman, Jasonville  
 Annual Meeting:
- 3 Pres: Gordon L. Gutmann, Jeffersonville  
 Secy: Olegario J. Ignacio, Jeffersonville  
 Annual Meeting: 1986, Jeffersonville
- 4 Pres: Rosemary E. Weir, Brownstown  
 Secy: Charles Calhoun, Seymour  
 Annual Meeting: May 7, 1986, Seymour
- 5 Pres: J. F. Swaim, Rockville  
 Secy: Peggy S. Swaim, Rockville  
 Annual Meeting: Sept. 4, 1986, Terre Haute
- 6 Pres: Douglas Carter, Shelbyville  
 Secy: William Neshitt, Connersville  
 Annual Meeting:
- 7 Pres: John M. Records, Franklin  
 Secy: Marshall H. Trusler, Indianapolis  
 Annual Meeting:
- 8 Pres: Conrado R. Miranda III, Winchester  
 Secy: Jerome M. Leahey, Union City  
 Annual Meeting: June 4, 1986, Delaware
- 9 Pres: Walter P. Beaver, Noblesville  
 Secy: Dennis L. Pippenger, Noblesville  
 Annual Meeting: June 11, 1986, Noblesville
- 10 Pres: Frank M. Sturdevant, Valparaiso  
 Secy: Barron M. Palmer, Hammond  
 Annual Meeting: Sept. 25, 1986, Valparaiso
- 11 Pres: Michael Ball, Marion  
 Secy: Fred Poehler, LaFontaine  
 Annual Meeting: Sept. 17, 1986, Marion
- 12 Pres: Antonio Dones, Fort Wayne  
 Secy: Thomas Smith, New Haven  
 Annual Meeting: Sept. 18, 1986, Fort Wayne
- 13 Pres: Michael Thomas, Elkhart  
 Secy: Thomas J. Eberts, South Bend  
 Annual Meeting: Sept. 10, 1986, Elkhart

## COMMISSION CHAIRMEN

Constitution & Bylaws  
 Lloyd L. Hill, Peru  
 Legislation  
 Edward L. Langston, Flora  
 Physician Impairment  
 Larry M. Davis, Indianapolis  
 Public Relations  
 R. Adrian Lanning, Noblesville  
 Medical Services  
 Michael O. Mellinger, LaGrange  
 Convention Arrangements  
 B. Diane Wells, Spencer  
 Medical Education  
 Franklin A. Bryan, Fort Wayne  
 Sports Medicine  
 Ronald G. Blankenbaker, Indianapolis

## COMMITTEE CHAIRMEN

Negotiations  
 John A. Knot, Lafayette  
 Medical Education Fund  
 John W. Beeler, Indianapolis  
 Grievance  
 G. Beach Gattman, Elkhart  
 Future Planning  
 W.C. Van Ness II, Alexandria  
 Medico-Legal  
 John W. Beeler, Indianapolis  
 Indiana Medical Foundation  
 Frank B. Ramsey, Indianapolis  
 Reduce Drunk Driving  
 Michael DuBois, Indianapolis

## SECTION OFFICERS

ANESTHESIOLOGY  
 Chmn: Steven R. Young, Carmel  
 Secy: Donald L. Weninger, Michigan City

CUTANEOUS MEDICINE  
 Chmn: Donald W. Smith, South Bend  
 Secy: Mary C. Greist, Indianapolis

DIRECTORS OF MEDICAL EDUCATION  
 Chmn: Glenn D. Baird, Evansville  
 Secy: Thomas P. Dunfee, South Bend

EMERGENCY MEDICINE  
 Chmn: Kenneth L. DeHart, Kokomo  
 Secy: Eve Olson, Indianapolis

FAMILY PRACTICE  
 Chmn: Bernard J. Emkes, Indianapolis  
 Secy: William C. Spence, Knightstown

INTERNAL MEDICINE  
 Chmn: Dennis E. Stone, Columbus  
 Secy: Robert L. Rudesill, Indianapolis

MEDICAL DIRECTORS & STAFF  
 PHYSICIANS OF NURSING FACILITIES  
 Chmn: Hugh K. Thatcher, Indianapolis  
 Secy: Ivan T. Lindgren, Aurora

NEUROLOGY  
 Chmn: Charles A. Bonsett, Indianapolis  
 (Pro-Tem)  
 Secy:

NEUROLOGICAL SURGERY  
 Chmn: Daniel F. Cooper, Indianapolis  
 Secy: Marvin R. Bernard, Merrillville

NUCLEAR MEDICINE  
 Chmn:  
 Secy: Aslam R. Siddiqui, Indianapolis

OBSTETRICS & GYNECOLOGY  
 Chmn: J. Robert Stanley, Muncie  
 Secy: William E. Graham, Fort Wayne

OPHTHALMOLOGY  
 Chmn: Forrest Ellis, Indianapolis  
 Secy: Gerald Keener, Indianapolis

ORTHOPAEDIC SURGERY  
 Chmn: Ben Woodward, Evansville  
 Secy: Wade Rademacher, Beech Grove

OTOLARYNGOLOGY, HEAD & NECK  
 SURGERY  
 Chmn: William E. Cooper, Columbus  
 Secy: Richard T. Miyamoto, Indianapolis

PATHOLOGY & FORENSIC MEDICINE  
 Chmn: Merritt O. Alcorn, Madison  
 Secy: Arthur C. Jay, Columbus

PEDIATRICS  
 Chmn: Michael A. Hogan, Indianapolis  
 Secy: Kenneth C. Castor, Fort Wayne

PREVENTIVE MEDICINE & PUBLIC  
 HEALTH  
 Chmn: Jane M. Irmscher, Fort Wayne  
 Secy: Francis B. Warriek, Richmond

PSYCHIATRY  
 Chmn: Philip M. Coons, Indianapolis  
 Secy: Cherryll G. Friedman, Noblesville

RADIOLOGY  
 Chmn: Robert W. Holden, Plainfield  
 Secy: Richard L. Pitman, Columbus

SURGERY  
 Chmn: John D. Pulcini, Evansville  
 Secy: Ted W. Grisell, Indianapolis

## ISMA KEY STAFF PERSONNEL

Richard R. King, Executive Director  
 Michael Huntley — Assoc Exec Director  
 Ronald Dyer — Attorney, Assoc Exec Director  
 John Wilson — Accountant  
 Adele Lash — Communications  
 Howard Grindstaff — Field Services  
 Sara Klein — Field Services  
 Bob Sullivan — Field Services, AMA Relations  
 Susan Grant, Executive Assistant  
 Mary Alice Cary — Executive Assistant  
 Rosanna Iler — Membership, Auxiliary  
 Beckett Shady-King — CME, Travel, House of  
 Delegates  
 Karyl Hancock — Convention Coordinator,  
 Meetings  
 Tom Martens — Members' Health Insurance  
 Carol Ann Cunningham — Resident Medical  
 Society, Specialty Society Services  
 Martin Badger — INDIANA MEDICINE

# COMMERCIAL ANNOUNCEMENTS

**PEDIATRIC PRACTICE** for sale. Immediately available, northside Indianapolis. Well established. Completely equipped office. Write P.O. Box 40401, Indianapolis, Ind. 46240, or call (317) 251-4819 (after 6 p.m.).

**FAMILY PRACTICE**—Full time faculty position. Assistant Director of Family Practice center. Responsibilities include teaching in an outpatient setting, monitoring residents, and teaching procedural skills. Some direct patient care. Excellent compensation and benefits. Contact Cheryl Newman, West Suburban Hospital, Erie at Austin, Oak Park, IL 60302. (312) 383-6200.

**PEDIATRICIAN**—Growing 374-bed community hospital in near-west suburb of Chicago seeks board eligible or board certified pediatricians to associate with existing practices. Salary to start, working into partnership. Contact Cheryl Newman, West Suburban Hospital, Erie at Austin, Oak Park, IL 60302. (312) 383-6200.

**MEDICAL PRACTICE SALES**—Listed below are a few available practices: **Allergy**—large Philadelphia practice; **FP + Int Med**—two Philadelphia practices; **Internal Medicine**—Arizona, Bethesda, Maryland, large practice in western Pennsylvania; **Orthopedic Surgery**—western Pennsylvania; **Pediatrics**—Colorado, eastern Pennsylvania and southern New Jersey; **Surgery**—New Jersey. We specialize in the valuation and selling of medical practices. If interested in buying or selling a medical practice, contact our brokerage division at: Health Care Personnel Consulting, 403 GSB Building, Bala Cynwyd, Pa. 19004—(215) 667-8630.

**IMMEDIATE CARE CENTERS**—Two immediate care centers in near west suburbs of Chicago have full and part-time positions immediately available. Opportunity to develop private practice if desired. Hospital will support practice. Contact Cheryl Newman, West Suburban Hospital, Erie at Austin, Oak Park, IL 60302. (312) 383-6200.

**FAMILY PRACTICE**—Several excellent opportunities immediately available to replace retiring physicians in western suburbs of Chicago. Hospital will provide generous income guarantee, and practice-building and management expertise. Contact Cheryl Newman, West Suburban Hospital, Erie at Austin, Oak Park, IL 60302. (312) 383-6200.

**FAMILY PRACTICE**—Partnership opportunity with group in central Illinois due to retirement of two family practice physicians. Obstetrics is optional. Newly renovated 91-bed JCAH hospital includes most specialties. Minimum income guaranteed—productivity factor plus benefits; office space contiguous to hospital. Board certified or eligible. Accessible to Bloomington, Peoria and Chicago. Reply to: Stephanie Lahners, Winfield S. Fisher and Associates, Spring Creek Road, Barrington Hills, Illinois 60010.

**OCCUPATIONAL HEALTH**—Freestanding occupational health centers associated with prestigious community hospital in western suburbs of Chicago have immediate openings for both full and part-time physicians. Excellent compensation. Contact Cheryl Newman, West Suburban Hospital, Erie at Austin, Oak Park, IL 60302. (312) 383-6200.

**FREE ROWING CLINIC**—Full aerobic exercise in sculling shells on Eagle Creek Reservoir. Involves all major muscle groups without pounding stress on joints. Excellent cardiopulmonary conditioning. Conducted by RN. Call INDY ROWINGSPTS for reservations. (317) 283-1989.

**FACULTY POSITION**—Indiana University School of Medicine. One faculty position will be available approximately June 1, 1986. Applicant must have completed a residency in General Surgery. The individual will be involved in general, gastrointestinal and trauma surgery; will be responsible for the teaching of medical students and residents; for clinical and experimental research; and the management of patients in the General Surgery Service. The applicant is expected to develop a self-supporting research program. Contact in writing: Jay L. Grosfeld, M.D., Chairman, Department of Surgery, Indiana University School of Medicine, 545 Barnhill Drive, EM 244, Indianapolis, IN 46223. Indiana University is an affirmative action, equal opportunity employer.

**FAMILY PRACTICE**—in southeastern Indiana near Cincinnati. Excellent location in beautiful old family home. Fully equipped office, off-street parking, modern hospital 10 minutes from office. Established practice over past 22 years. Will consider partnership, sale, and all other practice options. Intend to be retired within the next 5 years. Call (812) 537-3504.

**EMERGENCY MEDICINE** Position Available: Opportunity for experienced Emergency Physician to work weeknights 6 p.m. to 8 a.m., Kendallville, Ind. Contact Mr. John F. Ling Jr., Administrator—(219) 347-1100, ext. 120.

**50% OFF PREVIOUSLY OWNED MEDICAL**, laboratory, office, x-ray, ultrasound equipment in excellent condition. We buy, sell, broker and repair. Appraisals by Certified Surgical Consultants. Medical Equipment Resale, Inc., 24026 Haggerty Road, Farmington Hills, Michigan 48018—(313) 477-6880.

**INDIANA, North of Indianapolis:** Immediate full time position and directorship in newly renovated emergency department at 135 bed facility. Hourly salary, flexible scheduling, malpractice insurance provided. For more information, call 800-253-1795 or in Michigan 800-632-3496; or send CV to Emergency Consultants, Inc., 2240 South Airport Road, Room 20, Traverse City, MI 49684.

Commercial announcements are published as a service to members of the Indiana State Medical Association. Only ads considered to be of advantage to members will be accepted. Advertisements of a truly commercial nature (e.g., firms selling brand products, services, etc.) will be considered for display advertising.

All orders must be in writing and will automatically be set in regular classified type. Box numbers are not available.

## Charges:

Indiana physicians	25¢/word (\$5 min)
Out-of-state physicians	35¢/word (\$7 min)
Hospitals/health care facilities	50¢/word (\$10 min)
Realtors commercial recruitment and all others	75¢/word (\$15 min)

**Deadline:** First working day of month preceding month of publication.

**Payment Procedure:** Payment in advance is not required. Invoices and tearsheets are mailed to advertisers upon publication. INDIANA MEDICINE is issued on the 10th of each month.

**Address:** INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis, Ind. 46208.



**OFFICE SPACE AVAILABLE:** Franklin, Indiana. Lease or sell. 1500 sq. ft. new medical office ready for occupancy. Waiting room, business office, consultation room, nurses station, four exam rooms. Cathedral ceilings. Skylights. One minute drive west of Johnson County Memorial Hospital in rural setting. Beautiful view. For additional information, please call (317) 736-7310.

**MEDICAL PRACTICE SALES AND APPRAISALS:** We specialize in the valuation and selling of medical practices. If interested in buying or selling a medical practice, contact our Brokerage Division at: The Health Care Group, 400 GSB Building, Bala Cynwyd, Pa. 19004—(215) 667-8630.

**EMERGENCY MEDICINE POSITION AVAILABLE:** Excellent opportunity for experienced emergency physician to join career emergency group practicing in northwestern Indiana, near Chicago. If you have over 4,000 hours experience, please contact Laurie Perkins at (312) 327-0777.

**FAMILY PRACTICE OFFICE** complete and very nice, plus x-ray. Very reputable practice 2 miles north of South Bend and 10-15 minutes from 2 major hospitals. 5 minutes from Notre Dame. Solo; could be a partnership set-up. Gross 6 figures. For information, call (219) 272-6300 or 272-3646.

**OUTSTANDING EMERGENCY MEDICINE Position**—Available immediately but actual starting time negotiable. Experienced Emergency Physician wanted to join private group practice. Fee for service—full and equal benefits and income immediately. Practice located in Anderson, Indiana. Contact Dr. Phillip Pinegar at either (317) 646-8220 or (317) 284-2605.

**HOME NEAT HOME**—Complete cleaning by Kim, a lady who knows how to wipe that dirty look off your space. Experienced, satisfaction guaranteed. Free estimates. References on request. Indianapolis area only. Please call Kim Hancock, (317) 844-8473.

**OFFICE SPACE AVAILABLE:** Greenwood Professional Park. Excellent accommodations in an established medical complex. Attractive. Well landscaped setting. Plenty of convenient parking. Complete laboratory and radiological services on premises. Centrally located in the fastest growing area of Indiana. Two miles from new University Heights Hospital. Ideal location for the individual practitioner or as an additional location for group practices. Ready for occupancy. No leasehold expenses required. For additional information, please call (317) 881-3565.

**FAMILY PRACTICE for sale,** Lawrenceburg, Indiana. Well established for the last eight years. 1500-plus square feet, fully equipped and furnished office with 300 MA X-ray and developer. Available immediately. Terms negotiable. Office space can be leased or purchased. Call Dr. V. Goel, (513) 385-8100 or (513) 681-8810.



**AIR  
FORCE**

A great way of life.

## HEALTH CARE AT ITS BEST: AIR FORCE MEDICINE

Air Force medicine is one of our best benefits, and, with your help, we'll keep it that way. The Air Force needs physicians such as you to become members of our health care team.

Most administrative responsibilities are in the hands of others, giving our physicians the time to give their full attention to the patients' needs. Our hospitals are staffed with dedicated, competent professionals.

You'll find you will have time for your family, and to keep abreast of the latest methods and technologies that you don't have time for now. We also offer unlimited professional development and financial security.

If you're considering a change, consider Air Force medicine. To find out more about Air Force medicine, contact your nearest Air Force recruiter. Experience health care at its best.

Capt. Scott Simpson  
SSgt. Ernie Williams  
SSgt. Bill Turner

317-269-6164 or 6354 collect



## Membership Roster

The 1986-87 edition of the Indiana State Medical Association Membership Roster is now available. The roster is mailed automatically to all ISMA members.

Additional copies of the roster will be sold for \$15.00 each for a physician member and \$30.00 each for a non-member, payable in advance. Checks should be payable to the Indiana State Medical Association.

For more information or to order copies, write to the ISMA Membership Department, Attn: Rosanna Iler, 3935 N. Meridian St., Indianapolis, Ind. 46208.

## Are You Moving?

If so please send change of address to Membership Dept., ISMA, 3935 N. Meridian St., Indianapolis Ind. 46208, at least six weeks before you move.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

County \_\_\_\_\_

Tel: Office \_\_\_\_\_ Tel: Home \_\_\_\_\_

IMPORTANT—Attach mailing label from your last copy of INDIANA MEDICINE here.

## ADVERTISERS INDEX

June 1986

Vol. 79

No. 6

American Physicians Life .....	Cover, 545
Ayerst Laboratories .....	507-510
Brown Pharmaceutical Co., Inc. ....	503
Campbell Laboratories .....	515
Central Pharmaceuticals, Inc. ....	565
Commercial Announcements .....	572-573
Eli Lilly & Company .....	530
Forest View Psychiatric Hospital .....	528
Indiana Medical Bureau .....	525
Indiana Medical Foundation .....	568
Knoll Pharmaceutical .....	552-554
Lincoln National Life .....	550
Marion Laboratories .....	519-520
MedEcon Placement Network .....	567
Medical Accounts Group, Inc. ....	543
Peoples Drug .....	501
Physicians' Directory .....	556-563
Physicians Insurance Co. of Indiana .....	538
Roche Laboratories .....	Covers
Smith Kline & French .....	529, 551
Thomson McKinnon Securities, Inc. ....	521
Upjohn Company .....	539
U.S. Air Force .....	547, 573
Veterans Administration .....	518
Wyeth Laboratories .....	540-542

In accepting advertising for publication, INDIANA MEDICINE has exercised reasonable precaution to insure that only reputable, factual advertisements are included. However, we do not have facilities to make comprehensive or complete investigation, and the claims made by advertisers in behalf of goods, services and medicinal preparations, apparatus or physical appliances are to be regarded as those of the advertisers only. Neither sanction nor endorsement of such is warranted, stated or implied by the association.

EXCERPTS FROM A SYMPOSIUM  
"THE TREATMENT OF SLEEP DISORDERS"

... highly effective  
for both sleep induction and  
sleep maintenance

Sleep Laboratory Investigator  
Pennsylvania

... onset of action is  
rapid... provides sleep with  
no rebound effect to agitate the  
patient the following day

Psychiatrist  
California

... appears to have  
the best safety record of any  
of the benzodiazepines

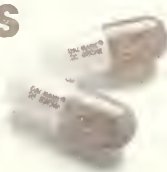
Psychiatrist  
California

After 15 years, the experts still concur about the continuing value of Dalmane (flurazepam HCl/Roche). It provides sleep that satisfies patients... and the wide margin of safety that satisfies you.

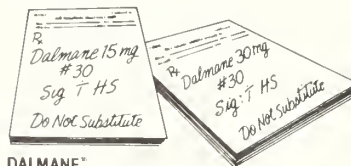
The recommended dose in elderly or debilitated patients is 15 mg. Contraindicated in pregnancy.

**DALMANE**<sup>®</sup>  
brand of  
flurazepam HCl/Roche<sup>®</sup>  
**sleep that satisfies**

15-mg/30-mg  
capsules



**References:** 1. Kales J, et al. *Clin Pharmacol Ther* 12:691-697, Jul-Aug 1971. 2. Kales A, et al. *Clin Pharmacol Ther* 18:356-363, Sep 1975. 3. Kales A, et al. *Clin Pharmacol Ther* 19:576-583, May 1976. 4. Kales A, et al. *Clin Pharmacol Ther* 32:781-788, Dec 1982. 5. Frost JD Jr, DeLucchi MR. *J Am Geriatr Soc* 27:541-546, Dec 1979. 6. Dement WC, et al. *Behav Med*, pp. 25-31, Oct 1978. 7. Kales A, Kales JD. *J Clin Psychopharmacol* 3:140-150, Apr 1983. 8. Tennant FS, et al. Symposium on the Treatment of Sleep Disorders, Teleconference, Oct 16, 1984. 9. Greenblatt DJ, Allen MD, Shader RI. *Clin Pharmacol Ther* 21:355-361, Mar 1977.



**DALMANE**<sup>®</sup>  
brand of  
flurazepam HCl/Roche<sup>®</sup>

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening, in patients with recurring insomnia or poor sleeping habits, in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

**Contraindications:** Known hypersensitivity to flurazepam HCl, pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patients to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Withdrawal symptoms rarely reported, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase, and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage, 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

**Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl.



Roche Products Inc  
Manati, Puerto Rico 00701



# #1 FOR SLEEP

After more than 15 years of use, it's #1 for sleep that satisfies. Patients are satisfied because they fall asleep fast and stay asleep till morning.<sup>1-8</sup> And *you're* satisfied by the exceptionally wide margin of safety.<sup>7-9</sup> As always, caution patients about driving or drinking alcohol.

Please see preceding page for summary of product information.

**DALMANE<sup>®</sup>**  
brand of  
flurazepam HCl/Roche <sup>®</sup>  
**sleep that satisfies**













